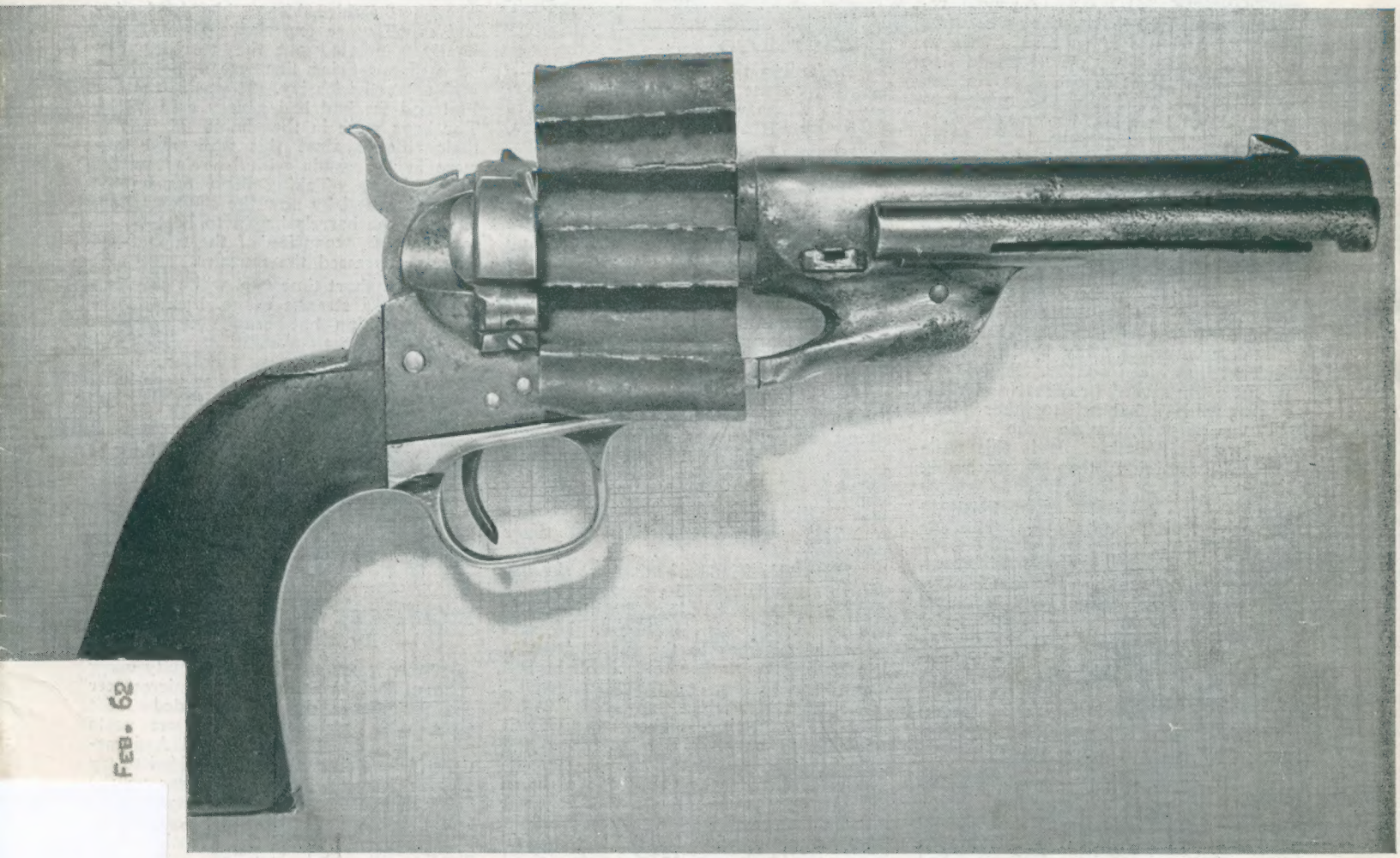
Precision SHOOTING

May 1960
Vol. 5, No. 1
35 cents



ANOTHER HANDLOADING "WHAT NOT TO DO"

See story on page 2

THIS MONTH

PHILIPPINE SHOOTING
CARTRIDGE CASE WEIGHT VARIATION
A MATCH WINNING POINTER
IRON SIGHT SHOOTING TIP
A .240 COBRA BENCH REST RIFLE

a magazine for Shooters by Shooters

Precision Shooting is published monthly by Precision Shooting, Inc.

Editorial and business office at 64 Depot Street, Lyndonville, Vt.

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Subscription rates:—To the U. S., Canada and Mexico, 1 year $4.00, 2 years $7.00, 3 years $9.00. All other countries $1.00 per year additional.

Change of address requires 30 days' notice.

Precision Shooting is entered at Post Office, St. Johnsbury, Vt. as second-class mail.

A FREEDOM TO BE GUARDED

Reading the informative article on PHILIPPINE SHOOTING should re-emphasize the fact that so far as firearms ownership and use is concerned, we in the United States are privileged to live in one of the freest of the Free Nations of the World. It should also remind us once again that we had better keep alert and on our toes to prevent loss of this freedom to own and use firearms, by legislation.

Public press reporting of world events may, and probably does, tend to make many of our citizens fear a loss of our freedoms by force from outside sources. That is a possibility not to be ignored. It is this writer's opinion, however, that our greatest danger for loss of individual freedoms is from insidious, continuing whittling away by legislation, permitted by citizen apathy. Individuals with privately owned firearms (and skilled in their use), banded together for a common purpose, made the United States a "Free" nation. It is this writer's further opinion that a continuing widespread private ownership of firearms and their lawful use for sport purposes can be a powerful factor in the protection of our individual freedoms.

What we do need is **sure** punishment, in proper degree for the offense, for careless, irresponsible, illegal and criminal use of firearms. We do not necessarily need new laws, or more laws, but we do need to **insist** that laws we already have for the protection of society are made use of, impartially.

PHT

UNUSUAL SHOOTING EVENT

The Colts Patent Firearms Manufacturing Company, in conjunction with the Bangor, Maine, Sportsmen's Show and with the cooperation of the Hampden Rifle and Pistol Club, which supplied range and range assistants, sponsored a pistol shooting program, March 30 and April 1 and 2, which was a combination of competitive, promotional and educational. And the total of 630 persons who fired in the program is pretty good evidence that people do like to shoot.

Contestants in the program had registered with Colt dealers throughout Maine and the Colt Company supplied all the prizes. All the shooting was done with a weapon selected from the Colt display. The weapons were factory sighted and no individual adjustments and no sighting shots were permitted. Some of the contestants were firing a handgun for the first time. There was a range officer for each two shooters and strict range supervision. There were no "accidents" of any kind.

In the class for game wardens, guides and military people, Harold Blanchard of Greenville fired high score of 42 X 50. In the law enforcement officer class, Willard F. Parker of the Maine State Police, Livermore Falls, had high score of 41. In the General Public class (449 contestants), Norman J. Boucher from Lincoln had high score of 42. Carl Boyington of Bangor was runner-up in this class and was also winner of the Coltsman rifle by draw.

All contestants were briefed on safety, so an important contribution was made toward greater knowledge and safe handling of firearms. In addition to the shooters there were many spectators who did not participate in the shooting.

We would suspect that the Colt Company's prestige in Maine may have been aided as a result of this promotion, and the cooperation with their dealers throughout the state was good public relations all-around.

PHT

COVER PHOTO

Regarding the blown up handgun illustrated on the cover this month, Harvey Donaldson writes as follows: (Photo made by BLAIR PHOTO, Fonda, N. Y.)

Dear Phil:

A cover of a recent issue of PRECISION SHOOTING showed a picture of a blown up rifle. I thought you might like to show a picture of a blown up handgun. This old timer was originally a fine old cap and ball Colt in .44 caliber, but had been converted to take the .44 S & W Special case.

Who ever did this job understood his gunsmithing, as it was a slick working outfit. This old handgun was owned by a friend who does considerable re-loading for several handguns from .38 S & W Special up to the .44 S & W Magnum.

One day this past Fall when this friend and I were deer hunting, he happened to have this old Colt along, and we shot it with the regular .44 S & W Specia lblack powder loads. The old timer shot OK.

Then this friend of mine got the notion to see how the old gun would handle some cases he had re-loaded with smokeless powder, for his .44 Special. He said he would go back to the car and get a few handloads. I then told him if he had any notion to blow up the old timer, all that would be required was ONE CARTRIDGE. And that is about the way it worked out, as after one cartridge had bene fired the gun was in the same condition as shown in the picture. No harm came from shooting the old Colt as it was held at arms length, but as it was a fine example of what NOT TO SHOOT in an old black powder gun, my friend gave me the remains of the old timer to hang on the wall of my shop.

This picture may cause some young shooter to think TWICE before he tries any modern loads in an old black powder weapon.

Sincerely,

Harve

A MATCH WINNING POINTER

By Don Baker

Many years ago the writer was a member of the Brooklyn Rifle Club. During my first year of rifle shooting with that club I took part in a 200 yard match, two sighting shots and twenty shots for record. What happened in that match is well worth knowing to any one who expects to excel in competitive shooting.

Getting well set in the prone position I fired my two sighters. These turned out to be dumbells just inside the bull at about seven o'clock. Adjusting my scope to bring the next ones up and over to the center, I fired two more which struck in approximately the same place. By the time I had finished the twenty shots I had made corrections after every two shots and my whole group was practically all in the lower left corner of the bull.

Leaving the firing point I met Larry Corsa, at that time a representative of the Birmingham Small Arms Co., an old time rifle shot, and I suggested to him that he take his rifle and lay it in his telescope rest at the firing point. He wanted to know why but I refused to tell him and he did not accept my tip. Poor Larry. He had the same trouble except that his two sighters were just outside the bull and before he finished he had a number of others in the nine ring. After he finished he came to me to ask what was wrong. I kidded him a bit, he having had much more experience than I, but finally I pointed out the trouble. Just back of our firing line was a high brick wall covered with ivy. It was in the late Fall and we had had a very cold night. The boys were in the habit of sitting their rifles against this wall and they were in the shade with barrels towards the cold wall. Taking them out on the firing line, and by now the sun was blazing hot, the barrels began to heat up on top and the expansion of the top of the barrels depressed the muzzles.

Just a short time ago, while coaching a team on a strange range, I saw a reverse condition but caught it at once. Glancing over to a rack in which the boys had had their guns I noticed it was in the sun and that the sun had been beating down on the tops of the barrels. When they took them onto the firing point, which by the way was in a valley, a near-by mountain threw a shade over the firing point and the barrels began to straighten out.

Moral: Get your gun on the firing point, and in the position you expect to hold it, some time before you down to shoot.

IRON SIGHT SHOOTING TIP

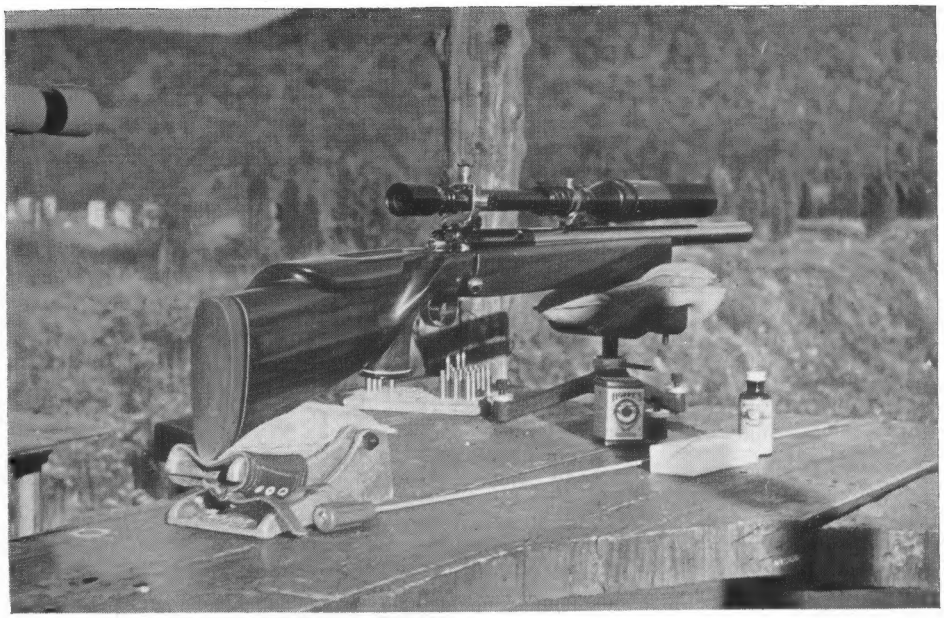
By Richard D. Stam

Some years ago I had difficulty using conventional Iron Sights, i.e., micrometer receiver rear and small hooded front sight with interchangeable insert posts and peeps, due to Myopia and Astigmatism (near sightedness). I decided to try various means which might clear up the bullseye and keep it from graying and fading away.

I had a Heavy Barrel Winchester 52 Target Rifle and installed a Redfield Olympic front sight on it. This sight is about 4 inches long and I used clear plastic inserts. Next I installed a Merit Master disc on the receiver sight in place of the standard disc with peep hole. This Merit Iris shutter is like a camera shutter and can be adjusted by clicks from the smallest peep opening to 1/8" diameter peep hole, allowing adjustment for various light conditions on the range. The rifleman need only enlarge or close in the peep diameter until the bull shows up sharp and black. This combination worked fine for me in outdoor shooting. However, when used indoors in gallery shooting where lighting conditions were poor (that is, darkened firing points) my eyes would not do as well as when shooting outdoors.

I decided to try a Tube Sight with

micrometer telescope mounts for indoor gallery shooting at 50 feet in place of the micrometer receiver sight. I bought a Unertl Tube Sight, which is made with light baffles inside, and also obtained the proper height front sight base for the Olympic front sight. The front sight base is important and must be the right height for a particular diameter rifle barrel to line up properly so you can get various range adjustments. The Unertl people have dozens of different height bases and can recommend the proper one for a given rifle. I next screwed the Merit Iris shutter disc into the tube sight and was ready to try this combination of Olympic fron tsight, Tube sight and Merit Disc on the indoor range. I had someone spot for me so I would not get out of position and was pleased to get a 10-X possible the first target after sighting in. With this combination the bull stayed sharp and black and did not fade. This experience might be helpful to some shooter who might have the same trouble I had. I believe Freeland and Lyman also make Tube sights (Ed.: and Redfield the X-Tube).



A .240 Cobra bench rest rifle.

A .240 COBRA BENCH REST RIFLE
By James R. Lyons

I am sending a photograph of a 6m/m wildcat bench rest rifle. The caliber is a .240 Cobra and if I recall, some issues back, a shooter inquired about this cartridge, requesting information on this rather obscure caliber. I, personally, have been shooting this caliber for 8 years and have burned out a few barrels over the bench as well as on woodchucks.

.220 Swift brass is necked up to accommodate .243" diameter bullets, loaded and fireformed in a .240 Cobra chamber. A good stiff fireforming load is 39 to 40 grains of 4895 powder with 75 grain bullets. Brass loss in forming is virtually nil unless reduced loads are used.

Case dimensions after trimming and chambering are approximately the same as the Swift in length, but body taper and shoulder are altered considerably. The shoulder angles is 34 degrees with a slight radius (if F. K. Elliott reamers are used). Case capacity is about 49 grains of 4350 powder, full up, so you can readily see that it is about 2 to 3 grains shy of the commercial .244 Remington capacity.

The advantages to owning a Cobra over a commercial 6m/m are not so much in external ballistics, but more towards better case life and a reduction in handloading procedures. Cases do not lengthen and necks do not thicken, so trimming, reaming and chamfering are not as frequently needed as they are on a case like the .243 Winchester. I have never had a head separation on any of my cases and some of these have been loaded a countless number of times. I still have some of the original brass that I started with 8 years ago.

Best accuracy is obtained with 75 grain bullets in a 1-12 inch twist and 38 to 40 grains of 4895 powder. Full throttle chuck loads can go as high as 44 grains of 4895 powder with 75 grain bullets. I have one load which I standardized on several years ago for woodchucks, using the 85 grain Sierra bullet; it gives me 3597 F. P. S., however, I prefer not to mention the charge for fear that some novice may use it for a starting load, and although it is perfectly safe in my rifle, it may not be in others.

The rifle in the photograph is owned by Richard Lettick, 151 Westwood Rd., New Haven, Conn. Metal work is by Ted Holmes Gun Shop of Mattoon, Illinois. It has a Schultz and Larsen M-54 action, 28" Hart barrel, 1⅛ diametre straight out. Scope is Unertl Ultra Varmint in 15X with scope shade, 10 inch separation between bases.

The stock is a special design with a high roll-over comb with indent for bolt removal. All wood work and finishing was done by John Pasicka of Pasicka and Sedgewick Gun Sohp, Barnum Ave., Stratford, Conn.

TRIG TABLE IN THE HEAD
By Dermot C. Reilly

Any trigonometric function of any angle can be computed without recourse to the calculus by means of the familiar equations for the functions of the sums and differences of angles if suitable combinations of angles with known or calculated functions are selected. The equations are:

Sin (A plus B) equals Sin A Cos B plus Cos A Sin B

Sin (A minus B) equals Sin A Cos B minus Cos A Sin B

Cos (A plus B) equals Cos A Cos B minus Sin A Sin B

Cos (A minus B) equals Cos A Cos B plus Sin A Sin B

Sines of small angles (two and two-thirds degrees and under) can be computed to four significant figures by regarding their subtended arcs as equal to their ordinates, i. e.:

Sin A equals 2 Pi r A over 360 all divided by r equals 2 Pi A over 360, where r equals any radius and A is the angle in degrees.

Cosines of angles under five and a third degrees can be calculated emperically by squaring the number of degrees in the angle, adding 50 per cent to the result and subtracting that number of ten thousandths from 1 (this is correct to four decimal places), i. e.:

Cos A equals 1 minus 1.5 (A squared) .0001

The functions of 30, 45 and 60 degrees, which if not carried in the head can readily be ascertained by inspection of roughly sketched right triangles incorporating them, are natural reference functions. The system can be short cut by remembering other reference angles whose functions are "round numbers." A particularly useful one is 36.87 degrees (smallest angle in a 3-4-5 triangle). Others are: Sine of 21 degrees 6 minutes equal to .36000, and Sine of 41 degrees 18 minutes equal to .66000.

The half angle formulae: Sine of one half A equals plus or minus the square root of the quantity (1 minus Cos A) over 2, and Cosine of one half A equals plus or minus the square root of the quantity (1 plus Cos A) over 2; are especially useful for obtaining reference functions of an angle of an order of magnitude such that the desired function of the desired angle can be ascertained with a minimum number of steps.

Cosines are most readily computed from sines and vice versa from the equation: (Sine of A) squared plus (Cosine of A) squared equals 1.

(Continued on Page Fifteen)

COMING MATCHES

(We will list place, date, type and title of match, name of sponsoring organization, name and address of contact person, at a nominal flat rate of $2.00 per insertion, prepaid with insertion order. Insertion orders must reach the Precision SHOOTING office, 64 Depot Street, Lyndonville, Vt., at least 45 days before date of match for single insertion orders. For multiple insertions, 30 days additional must be allowed for each additional insertion desired.)

HAMPDEN, MAINE: June 12, 1960; Maine State .30 Caliber Rifle Championship (all at 200 yards on "A" target); programs from Paul M. Beegel, 80 Goff St., Auburn, Maine.

WEST BOLTON, VERMONT: July 17, 1960; Vermont State High Power Rifle Championship (200, 300 and 600 yards); programs from (Mrs.) Jean P. Constantine, R. F. D. #3, Montpelier, Vermont.

PHILIPPINE SHOOTING

By Vicente Bengzon, Jr.

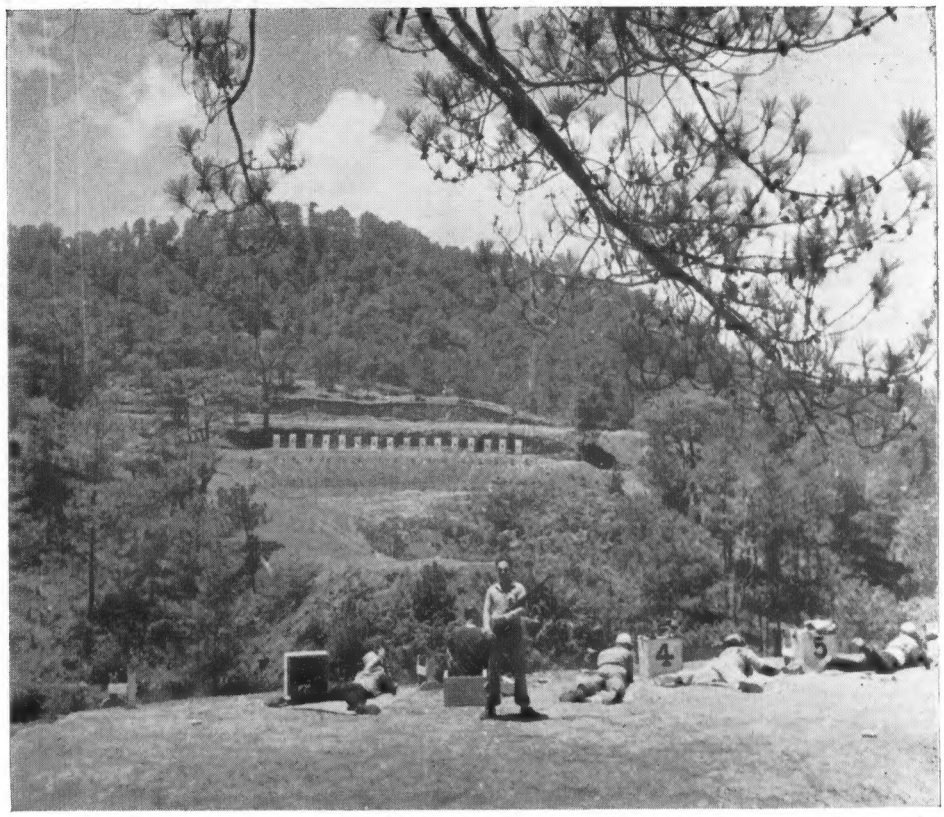
In August, 1934, the National Rifle and Pistol Association of the Philippines was formed by a group of Filipino target enthusiasts, as a non-stock corporation.

From 1934 up to the present, the NRPA took a leading part toward the popularization of target shooting as a **means of National Defense,** promotion of firearms safety rules and the enactment of laws favorable to the firearm holder. In this sense, it may be said that it closely follows the aims and objectives of the NRA of America.

As the sport gradually spread, several gun clubs sprouted throughout the Islands. Realizing then, the necessity of coordinating the activities of these clubs, some NRPA members proposed the formation of a body to which all gun clubs duly recognized by the Philippine Constabulary, will be affiliated, following the pattern of the NRA. Consequently, in 1949, the Philippine Shooting League was organized. Among other things, its purpose is to standardize target shooting, conduct the national open shooting championships and train Filipino shooters for international competitions. Due to financial difficulties, however, the ultimate decision in the selection and financing of such Filipino shooters rests with the Philippine Amateur Athletic Federation, the body that governs all kinds of sports in the Philippines, through its various committees: shooting committee, football committee, basketball committee, etc. Strange as it may seem, a large majority of the officers of the PSL and the PAAF Shooting Committee come from the NRPA.

FIREARMS LAWS: Unlike that of the United States, the Philippine Constitution **does not** contain any provision guaranteeing the "right to bear arms." Regulations regarding firearms and explosives are enforced by the Philippine Constabulary (with the help of police authorities) under the **authority of the President of the Republic of the Philippines.** At present, there is **no statutory law** governing the qualifications of applicants, although there is a law penalizing the illegal possession of firearms and explosives. **Full discretion** is therefore lodged in the Chief of the Philippine Constabulary, who may or may not issue a license covering firearms and ammunition, especially when they are the so-called center-firearms. The possession of firearms being a **privilege** and not a right, there is no legal action by which an applicant can compel the Constabulary Chief to issue the license.

While there is no limitation as to the number of guns that a citizen (or a foreigner) may acquire, still it is quite difficult to obtain the necessary license for more than two or three firearms, particularly of the high power types. To secure a license, an applicant should, among others, possess good moral character, no criminal record, owner or administrator of real estate with a certain minimum assessed value, professional, employee with a minimum salary, etc. Apart from these, the applicant has to be fingerprinted, be personally interviewed and so on and so forth. To enable a firearm holder to bring out his gun from his residence, he still has to obtain a "permit to carry," renewable every 3 months. Even with such "permit," he is prohibited from bringing his gun inside places or buildings where people gather around for recreational, religious, social or political purposes. About once or twice a year, the Constabulary requires, under penalty of confiscation, the arms to be "verified" for the purpose of finding out whether the owner is still qualified to possess guns.



Rifle Range at Philippine Military Academy. Vicente Bengzon, Jr. facing the camera.

During the period of 30 days before and after the national elections, all firearms holders are **not allowed** to bring out their arms, with the exception of certain persons, such as: police and Constabulary officers; representatives of the Commission on Elections, licensed merchants, cashiers, hunters with hunting permits (limited to shotguns and .22 cal. firearms only) and target shooters.

Firearm holders are subject to firearm tax, graduated according to the caliber of the arm. Mainly through the initiative and effort of the NRPA, the government allows active members of gun clubs recognized by the Constabulary, to pay **greatly reduced taxes** for their firearms. The government's aid, however, does not extend to the customs duties in connection with the importation of arms and ammunition **except** when these are for the exclusive use of the Armed Forces of the Philippines. Aside from the prohibitive customs duties, the remittance of dollars abroad for purchase of non-essential goods, is rigidly regulated by the Central Bank of the Philippines through the different local banks. The **injurious effects** of these regulations on target shooting cannot be too strongly stressed.

RANGES: The shooting range of the NRPA is located at G. del Pilar st., San Francisco del Monte, Quezon City, which is approximately 10 kms. from downtown Manila (capital of the Philippines). There are about 12 firing points in the 50 meters and 50 yards rifle range, and about the same number in the pistol range, which includes the Olympic rapid fire silhouette target frame. All the firing points are of cement, while the roof is made of galvanized iron, criss-crossed with woods of various sizes. Overlooking the range is the clubhouse, where members can take showers or order their meals.

The Armed Forces of the Philippines also has a shooting range at Ft. Wm. McKinley. In the 25 yards, 50 yards and 50 meters, pistol and rifle ranges, all the firing points (about 20 or 25) are made of cement, while there are about 6 firing points in the 100 yards and 100 meters rifle range. As for its high power range, the firing point is open and can accommodate about 30 shooters. Another high power range is at Baguio City (north of Manila, about 1 hour by plane; also called the summer capital due to its temperate climate) and is located inside the area occupied by the Philippine Military Academy (our local West Point). This too is open and has about 15 or 20 firing points. It is similar to the McKinley range except that the maximum range is 200 yards, while in the former, a 300 meters range is available.

South of Manila, about 2 hours by plane, the Cebu Gun Club of Cebu City (capital of the island of Cebu) has a modest range for about 15 shooters for the different pistol and rifle courses, including the Olympic rapid fire target and a 200 yards rifle range.

The national open shooting championships are alternately held at the aforementioned ranges only. The 1960 championships were shot at the Cebu Gun Club ranges last February.

EQUIPMENT: Each shooter buys his own arms and ammunition. However, those who qualify to represent the country in international competitions are furnished **ammunition only** (limited) by the PAAF.

Before WW II, American arms were popular here, but this is no longer true at present, especially in Olympic courses. Some of the foreign arms are; Finnish Lion, Swiss, Hammerli rifles and pistols, and the German Anschutz. Most of the American target rifles are the Winchester 52's (models B and C), two of which

have Eric Johnson's barrels. Practically all sights used are those made by the Redfield Company. In the telescope sights, it is evenly divided between Lyman and Unertl. The 20X is the most popular among the riflemen.

The Squibman Manufacturing Co. (the only arms manufacturer here) is at present producing an experimental .22 target rifle built along the lines of the Win. 52. It has (on special request) a 3-point bedding system.

In the .22 cal. pistols, the Hi-Standards (Citations and Supermatics) outnumber the Colt Match Target; some of which are equipped with Micro sights.

Quite a number of .45 pistols are locally "accurized" and with Micro sights, while a few are imported from the United States, such as the Colt National Match Gold Cup and those accurized by King, Pachmayr and lately George Elliason of Fraser, Michigan. It should be mentioned at this point, that Sgt. Leland B. Taylor (formerly of the Clark Air Force Base, Pampanga, Philippines, now said to be assigned at Albuquerque, New Mexico) was mainly responsible for making local pistolero s aware of the accuracy potential of the .45 pistol, especially when shot with handloads. As a matter of fact, he establisehd a national record in the .45 Camp Perry course with a score of 278 in 1958; and a year later (he was then sent back to New Mexico) NRPA shooter "Chito" Feliciano, Jr. broke this record with 283, using a pistol accurized by Pachmayr. This record still stands up to the present.

Due to the strict regulations plus a high rate of custom duties, the cost of arms and ammunition here is almost beyond the means of the average income earned by employees either in the government or in civilian private firms. A great majority of the .45 ammo used is the army type **issued in 1942 or 1943,** which contains corrosive primers. Commercial type is almost non-existing here, while only one dealer has been licensed to make handloads. And so long as these regulations continue in force, handloading will never be extended to private individuals or even gun clubs. The following are the average prices of ammunition at the equivalent of U. S. dollars:

.22 match type long rifle per box—$7.00. .45 army issue per box—$3.50. .45 handloads (shells supplied by shooter)—$6.50 a box. 6.5m/m for Olympic free rifle course—$12.00 a box.

With such prices, shooters are **compelled** to economize, which, of course, greatly affects their scores. Even in preparing themselves for the nationals, our best shots **have to** train intensively barely two weeks before. For a 3-position shooter to consume 2,000 rounds is something unusual. And it is seriously doubted whether a .45 pistol shot can afford to practice with 500 rounds before the national championships.

In connection with the subject of handloading, mention should be made of the generosity and kindness of the Lyman Gun Sight Corporation and Sierra Bullets, Inc., for sending over their respective color films about reloading. It was the first time that the members of the NRPA (and other interested persons) were given the wonderful opportunity of seeing the simple and easy mechanix of reloading.

PROGRAMME OF ACTIVITY: Except for the annual national championships, there are no regional or district matches. With respect to the NRPA, a club championship is held every year, from which the Board of Directors select those who will represent the club during the nationals. Although American courses (not all) are fired (NRA rules are applied), the Olympic courses (ISU rules govern here) are emphasized as much as possible.

The national shooting competition is conducted by the PSL under the auspices of the PAAF. It lasts only for a week, and each event is fired only once, the winner of which is the champion in such event. Here is the usual program:

1) .22 Camp Perry (winning scores, 1958—292, 1959—291, 1970—292)

2) .22 National Match (1959—277, 1960—280)

3) .22 Olympic Rapid Fire Silhouette (1958—60/550, 1959—60/538, 1960—60/563)

4) .22 Olympic Free Pistol (1958—524, 195—517, 1960—511)

5) .45 Camp Perry (1958—278, 1959—283 P. I. record, 1960—273)

6) .22 Any Sight Rifle Match, 50 yds. (1956—400-38 P. I. record, 1960—399-13x)

7) .22 rifle, Dewar Course (1959—400-23x P. I. record)

8) .22 Olympic Prone (1960—583-11x P. I. record)

9) .22 Olympic Three Position (1958—1054-8x, 1959—1053-7x, 1960—1075-6x)

10) .22 English Match (1960—591-1x P. I. record)

11) Olympic Free Rifle (modified course—200 yards)

12) Army Course "C"

THE TOURNAMENT CIRCUIT POSTAL SCHUETZEN MATCH

The 42nd Anniversary American Smallbore Indoor Record Match again demonstrated that a goodly number of American shooters do still like to compete in the Schuetzen type offhand matches. Two hundred forty-four shooters returned fired targets for the 100 shot Championship match before the closing date of March 31, 1960.

This match is fired at 50 feet range with any rifle shooting .22 cal. rimfire ammunition, with any sights, and with palm rest, hook buttplate and set triggers permitted, all in the offhand position. The target is the Schuetzen type 25 count ring target for 50 feet range. The 100 shots are not required to be shot at one session, but once a 10 shot target is started it must be completed.

This year's winner was Ammon A. Bell from Hummelstown, Pa. with a near perfect score of 2497 X 2500. He dropped single points on each his 3rd, 5th and 8th targets. Bell has been in the top-ten for this match for a number of years but this is his first win. He is nationally known as one of the country's top ranking .30 caliber riflemen.

Defending champion Ted Polette from Libby, Mont., fired the same score that won for him last year, but 2493 was only good for runner-up spot this year. Earle R. Miller, Glenwillard, Pa., was third with 2491. Fourth and fifth were Wilbur Buell, Fond Du Lac, Wis., and John Guitar III, Durango, Colo., each with 2490 but Buell having a 249 on his 10th target to Guitar's 248.

A Queen was crowned as winner of the 10 shot King Match. Lloydell Quint from Willows, Calif. scored a pinwheel on the 10th bull of her target to win over Roy Oster, Upper Darby, Pa. and Ted Polette, all three having scores of 249. This match is fired on a more difficult target than used for the 100 shot Championship, with the 25 ring only 1/8 inch in diameter and the scoring rings proportionally smaller.

The traditional EAST-WEST Team match (10 high from East and 10 high from West of the Mississippi River) was won by the EAST team by a score of 21262 to 21249.

VERMONT GALLERY RIFLE CHAMPIONSHIP

Richard Betz, Exeter, N. H. was open aggregate winner, with score of 778, of the Vermont State Gallery Rifle Championship, fired on the Norwich University Armory range in Northfield, March 27 and April 3.

D. Bauer of Northfield and a member of the Norwich University varsity rifle team, was runner-up and Vermont resident champion with a score of 775. R. Fernandez, Northfield with 774 and Charles Langmaid, Brattleboro with 773 took the Master class awards. W. Richardson, Pownal, was high Expert with 773 and H. Kolinich, Essex Junction, was high Sharpshooter with 7th overall ranking score of 771. Jo Ann Robinson from Putney was woman champion with a 767 score.

Brattleboro Rifle Club won the team match with a 1537 over Norwich University varsity team's 1520.

A record entry of 103 shooters fired in the matches.

100 YARD INDOOR SMALLBORE MATCH

At the Metropolitan Rifle League Individual and Two Man Team Matches, fired at 100 yards, indoors, in Brooklyn, N. Y., March 20, Harry Stone won the individual match with a 400-34x score. Sam Tekulsky and Walter Tomsen took the next two shots, each with a 400-32 score. Rans Triggs was 4th with 400-31 while Lloyd Norton and Bill Schweitzer took 5th and 6th Master spots with 400-30 scores, and A. Rosenblatt led Expert class with another 400-30.

Walter Tomsen and Fred Cole won the two man team match with 799-63, over Irwin and Sam Tekulsky's 799-56. Rans Triggs and Bill Schweitzer were 3rd with 798-67x.

Rans Triggs, 800-66; Fred Triggs, 800-56; and Irwin Tekulsky, 800-55, had the only individual aggregate possible scores.

NEW JERSEY OFFHAND MATCH

The Ninth Annual Wedgbury Memorial Offhand Match, fired at Maplewood Rifle Club (N. J.), March 26-27, was won by Fred Willing with a score of 381. Next high were E. Emrich 371, L. A. Burton 370 and O. Stimm 370. There were 31 competitors.

WISCONSIN JUNIOR MATCH

After 153 junior rifle teams from Wisconsin and neighboring states fired a postal qualifying match during February, 67 teams were selected to fire in the annual shoulder-to-shoulder match during the Milwaukee Sentinel Sports Show, March 19th through 26th. Teams were divided into class "A" (15 through 18 years of age) and class "B" (under 15 years of age). Class "A" fired the 10 shots in each prone and standing position course, while class "B" fired a 20 shots prone course.

In the class "A" finals, Rockford West Sr. High School #1 team (Illinois)

(Continued on Page Six)

The Tournament Circuit

(Continued from Page Five)

successfully defended the title they won last year, their 737 score for the four man team being 7 points higher than it took to win last year. The same school's #2 team ranked third in the finals with a 703 score. Edward Walker of the winning team fired high individual score of 189 (98 prone and 91 standing). Premontre High School ROTC team was runner-up with 721.

In class "B", Manitowoc Rec. Dept. Jr. Rifle Club team (Wisconsin) won with a 755 score, defeating last year's winners, Waterloo V. F. W. JRC team (Iowa), which scored 749. Campus Junior Rifle Club, which fired high score in the qualifying match, was third with 744. High individual scores were by Charles Heise of the winning team and Barbara Blaisdell of the 4th ranking Cottage School JRC team, both scoring 195 for the 20 shots prone course.

BROOKLYN, NEW YORK

The Metropolitan Rifle League's final 100 yard indoor smallbore match of the season was fired April 3rd with 45 competitors.

Dr. Irwin Tekulsky won the individual 40 shot match with a 400-36 score. He was followed by Fred Cole 400-34, H. Swarts, Jr. 400-30, Roy Oster 400-29, Walter Tomsen 400 29, Carl Johnson 400-29, and Experts W. Heil 400-27 and J. Glaab 400-25.

Roy Oster and H. Swarts, Jr. from Upper Darby, Pa. won the two-man team match with the only 800 possible and 63 X's. Irwin and Sam Tekulsky were second with 799-68, Fred Cole and Walter Tomsen third with 799-65, the father and son team of Eric and Carl Johnson fourth with 797-52, J. Holle and Harry Stone were fifth with 795-54.

Walter Tomsen won the individual aggregate with 800-63 and H. Swarts, Jr. and Roy Oster were second and third, each with 800-61. High Expert was F. Boelke with 799-55, and high Sharpshooter A. MacEachran with 797-46.

CALIFORNIA MUZZLE LOADER CHAMPIONSHIPS

Sixty-eight competitors fired the varied program of the California State Championship Muzzle Loader Matches on the Fresno Rifle and Pistol Club range during the five days, April 20 through 24. There were matches for flintlock and percussion rifles, round ball, slug gun and Civil War military rifles, plus handgun matches.

Carl Fuller of Riverdale won the double rest bench matches with a score of 97 X 100 at 100 yards and 96 at 200 yards. Ole Olsen from Orinda won the California Combination Rifle Championship with a score of 366 X 400, and the Flintlock Championship with a 144 X 100. Jim Landers, Vista, won the Handgun Championship with a score of 198 X 200.

WYOMING GALLERY RIFLE PROGRAM

The Wyoming Rifle Association smallbore rifle committee conducted a postal gallery rifle program during the winter, with matches for individuals, two man teams and club teams, in which well over a hundred contestants fired.

A northwestern Nebraska club, the Hemingford Rifle & Pistol Club, won the club team match for five scoring members with an aggregate of 9605 for the five match four position course, beating the Big Horn Mountain Gun Club from Sheridan by 35 points. Two members of the Hemingford team, John and Mike Manning were first and third in the individual four position match with five match aggregates of 1962 and 1950 respectively. Wyoming's Jasper Kleinjan was runner-up with a 1956 aggregate.

AAMU SQUAD WILL COMPETE IN EUROPE

Approximately 20 members of the U. S. Army International Rifle and Pistol Squad will participate in rifle and pistol matches in five European countries during May and early June. The Army squad is making the European trip as a part of an advanced program on training for the 1960 Olympic Team tryouts to be held at Fort Benning late in July.

The AAMU squad's match schedule is: May 1-8, Wiesbaden, Germany; May 10-15, Rome, Italy; May 17-22, Zurich, Switzerland; May 24-29, Stockholm, Sweden; and May 30-June 7, Helsinki, Finland.

We hope we may have some news of the early May matches for the June issue.

HARVEY DONALDSON WRITES

Dear Phil:

Have enjoyed your letter of the 18th, so will take the time to answer it properly. If conditions permit I hope to get up into your neck of the woods to do some trout fishing after the middle of May. My plans call for my leaving for Maine the first of June for my annual Atlantic Salmon Fishing trip. I go so far down the coast that they usually serve PIE for breakfast, believe it or not, and what pie. Will be gone at least a month and maybe longer. Have been making this trip for so many years that the folks down that way treat me like one of the natives. And if you know your Down East Folks, you will understand what I mean. If you want to get by with the natives in Yankee Land, it is a smart plan to learn to breathe through the nose. Thus you keep your mouth SHUT and your ears open, and I find it sure beats asking a lot of darn fool questions.

Have just received the April issue of PRECISION SHOOTING and as usual it is full of interest. In your last letter you say your rifle will be ready as soon as Bob Stinehour finishes the stock. You will have a surprise coming when you see the finish Bob puts on a stock. I was pleased to read his instructions in this last issue. A couple of weeks ago I made a little trip down to Roxbury to see my old friend Andy Brower, and he showed me a job Bob had just made for him. Guess I am old fashioned in that I like the old London oil finish on a gun stock, but when I had examined the finish on the stock Bob made for Andy I had to admit it was about as SLICK a job as I had ever seen. No question about it, Bob knows his way around in this gun business.

Have enjoyed the articles by both Col. Whelen and Creighton Audette on the matter of barrel vibration. I happen to have considerable data on this matter stored away in my own files and some day will tell you more about it. If Creighton will look through the old files of SHOOTING & FISHING, or it might be ARMS AND THE MAN, I believe he will find what he is looking for in regard to the experiments of both Dr. Crehore and Dr. Squier. I took notes on this at the time but it might be hard for me to put a finger on it at short notice. I also have some data on this matter as contained in my correspondence with Dr. Mann, back around 1906 or '08, but his data never appeared in print because he passed away before his second book was printed.

The more I read the magazines devoted to shooting matters as obtained from the news stands, the BETTER I enjoy PRECISION SHOOTING. You show information that not only can be easily understood, but this information may be put to good use by anyone interested in shooting.

In writing about the results you have obtained with your light weight Savage in .308 cal. in your last letter, I would say your load of 35 grs. #2 HiVel was correct for the fine Sierra 168 Gr. International bullets. With the .30/06 Springfield we used to use the old match load of 36.6 grs. of #2 HiVel, but I would say 35 grs. would be ideal in your rifle. Dog-gone your hide, anyway. Haven't I told you time and again never to condemn ANYTHING in this gun business until you have explored all the possibilities. Then, when you have done this, go back and do it all over again. You may have missed something, the first time.

In your April issue I note well the kind words Mr. Triggs has for the .22 S&W Kit guns. I agree with him 100 per cent. While I own several of the S&W guns in .22 cal., the Combat Master included, the gun I CARRY on my fishing trips is the fine little Kit Gun, in 3½ inch barrel.

I quite agree with you, Phil, that a fellow who attempts to kill a crow at 200 yards, with some of the outfits we see at some of our bench rest matches, called a bench rest rifle, will have his work cut out for him if he tries to rest said rifle on a fence post. I would advise him to try a PILE of fence posts, as that might work out better, yeah, fore and aft.

Wilbur Hauck is busy working on my new 6 m/m bench rest design of case, and as soon as I get shooting with the new outfit will be glad to report results. The new design is in proportion to the 219 Don. but made from 250/3000 brass. Only thing is that I will have to get this fishing business out of my system before I go back to shooting. Evidently there is no known cure for the Atlantic Salmon fishing fever. Once it gets into your system, no other kind of fishing will be quite the same. So; if you do not hear from me for a while after June 1st, you will know I am having myself a time, way down east.

Will check with you in May if I can try the Vermont streams before I get started for Maine. Let me know more about the results you get with the .308 Savage.

Have just noticed a few remarks Croff Hollidge made in his Stool Shooting Stuff, about the enjoyable weather they have down on Cape Cod. This may hold good around July 4th, but I have a vivid reminder of a trip John Collins and I made one time, when we drove down to visit Croff, the latter part of April. I didn't mind the cool weather, but John was wearing TWO overcoats, and he told me later that he never got really WARM until he had been back home in Rochester some two weeks later. If Croff thinks he had some snow fall, he should travel our back country in January. I took a fellow on a road leading north from Little Falls this winter where there was only ONE WAY TRAFFIC for six miles, with drifts from 15 to 20 feet high on each side of the road. A rotary plow had made just the one single lane, and we could not see out of the deep cut for the whole distance. And this was

only a mild winter. Croff should visit us when it really SNOWS. Why even the woodchucks in this country have feet like snowshoe hares, so when they come out in April, or May, they can stay up on top of the drifts.

So long for now,

Harve

(Editor's comment: And they give Texans credit for tall tales!)

CC-OPERATIVE TEAM TESTING

While the "Co-operative Team Testing" proposal has not to date resulted in any formal organization, the capable people who are interested in the project and its possibilities are not remaining idle. Following is a report of a test made by John P. Neissel, Schenectady, N. Y., at the request of Preston Hogue.

(March 21, 1960) "In your letter of Sept. 6, 1959 you asked what I thought would be the difference in velocity between cartridges loaded with new or full-length resized cases and those loaded with neck sized cases. I tried this recently and am passing the information on to you. I fired five shots each with new cases and with once-fired cases using a Model 70 .30-06, TW-54 cases, CCI primers, 3.4 **grams** of 4064 (lot 118), 150 gr. Sierra Spitzer bullets. The results:

"New cases—mean velocity 2994 ft./sec., total spread 36 ft./sec.

"Once fired cases—mean velocity 2959 ft./sec., total spread 26 ft./sec.

"As you can see, the new cases (smaller initial volume) produced the larger velocity, and this is opposite to the effect produced by variation in the bullet seating depth.

"This same load, except using WCC-56 cases, produced a mean velocity of 2905 ft./sec. with a total spread of 34 ft./sec. The WCC cases are considerably lighter than the TW cases, hence their use results in a lower loading density and hence a lower velocity. Similarly the use of new or full-length resized cases probably results in a higher loading density and hence a higher velocity than the use of neck sized cases.

"An increase in seating depth, however, produces two effects: a) higher loading density, which tends to increase velocity, and b) more time for gas leakage before the bullet seals the barrel, which tends to decrease velocity, and apparently the latter effect is the larger, for an increase in seating depth decreases velocity."

Preston Hogue makes the following comments regarding cartridge case weight versus powder charge variations:

"Digging into Dr. Neissel's results, as I did with Bob Snowball's in order to elicit some fact about the NRA value of 5 gr. case weight=1 gr. powder, I find that, considering their relative loading densities, their respective Case Weight effect upon pressures and velocities are very close, but they do not bear out the NRA rule-of-thumb of 5 gr. Case Wt.=1 gr .powder. It is closer to one-third that value. The high density loadings bring the value to around 5 gr. case=.3 gr. powder. The low density loadings around 5 gr. case=.175 gr. powder."

(Editor's note: As we get further information of results of tests made by this group we will pass it along. In the meantime, anyone who may desire to join this presently informal group who are searching for answers to ballistics questions may contact Preston Hogue, Sr., 13713 Rosedale Ave., Southgate, Michigan.)

CARTRIDGE CASE WEIGHT VARIATION

Mr. Glen B. Jones, Star Route, Box 258, Aberdeen, Washington, has recently reported some of his checking of cartridge case weight variation, as follows:

"Quite some time back when reading of the trouble Harvey Donaldson had run into with some Norma brass I felt like writing some of my own experience with Norma brass, which was opposite to his experiences. Decided not to do so. Do not consider myself much of an authority on such matters.

"A couple years ago, while loading some Winchester brass in caliber .243, I noticed there semed to be a great deal of difference in capacity of the cases. I weighed 42 of those Winchester cases on my Redding scale. Between lightest and heaviest case of the bunch there was a variation of 13 and some tenths grains. I bought one box of 20 Norma cases and weighed them. They were so close that I purchased nine more boxes. Out of those ten boxes of cases I got MORE than eight boxes which weighed within five tenths of a grain of 168 grains.

"When I weighed those Winchester cases, I used some fine Ball powder and found that the lighter the case the more powder it would hold. Of course there was not as much difference in weight of powder as there was difference in weight of the brass.

"I have recently bought five boxes of Remington brass in caliber .222 Remington, unprimed. On a separate sheet I will enclose a record of weight of each of those 100 cases. Lightest is 84.6 grains, heaviest is 91.6 grains. Extreme variation between lightest and heaviest case in that 100 is exactly 7.0 grains. These cases have the large rifle size flash holes.

"I also bought five boxes of new unprimed Norma brass in caliber .222 Remington. Will also enclose the record of weight of each Norma case. You will find the haeviest case weighs 98.8 grains, while lightest weighs 96.7 grains. The extreme variation between heaviest and lightest case is 2.1 grains. These cases have the small rifle size flash holes. The lightest Norma case weighs 5.1 grains more than the heaviest Remington case.

"Am enclosing this data in case it might be slightly interesting. We learn through Precision Shooting magazine because other shooters send information. A little from here and a little from there finally adds up."

During the late winter evenings the editor also did considerable case weighing, including Norma cases in four different calibers and of several lot numbers. Weighing was also done on a Redding scale. All cases weighed had live primers seated. Uniformity of weight of all Norma cases was found to be very good.

Sixty (3 boxes) of .30-06 cal. new, unfired but primed Norma cases, all of same lot number, had an extreme variation of only 1.7 grains and 90% were within a one grain variation (lightest 189.3, heaviest 191.0 grs.). Did not have enough commercial cases of any known lot in .30-06 cal. to make a comparative weighing.

In .257 caliber, sixty new Norma, unfired but primed cases, forty of one lot number and twenty of another lot number, had an extreme variation of 5.9 grains with fifty-eight cases within a 3.1 grains variation. Of the fifty-eight cases, the lightest was 173.1 grs. and heaviest 176.2 grs. One case in one lot weighed 179.0 grs. and one in the other lot weighed 178.3 grs. The two heavy cases are marked so that their performance may be observed when fired (still waiting for the new .257 rifle).

Three boxes of 7m/m Norma cases, each of a different lot number and purchased from a different store, which I had necked down to .257 cal., neck reamed and primed, had an extreme variation of only 4.4 grains for the sixty cases. Lightest was 172.9 grs. and heaviest 177.3 grs.

When visiting Harvey Donaldson last December, he gave me a box of Norma .257 cases which he had used but had no further use for. The cases were sized and primed. They were of earlier manufacture than the new cases I had, and averaged some 8.0 grains heavier. The extreme variation in this twenty cases was 2.1 grs.—lightest 182.1 grs. and heaviest 184.2 grs.

I had no other makes of cases in .257 cal. to weigh in comparison. But in .308 Winchester caliber I was able to get some comparisons.

Forty Norma .308 cases of the same lot number, once fired, resized and primed, had an extreme weight variation of only 1.2 grs. (lightest 161.5 grs. and heaviest 162.7 grs.) and 70% were within plus or minus 0.3 grs. of 162 grs.

Forty Western Super-X .308 cases, once fired, resized and primed, same lot number, had an extreme variation of 3.4 grains (lightest 152.6 grs. and heaviest 156.0 grs.).

Twenty F. A. '56 match cases, fired many times, sized and primed, had an extreme variation of 3.7 grains (lightest 176.7 grs. and heaviest 180.4 grs.).

In Bob Snowball's discussion of "Cartridge Case Capacity Variation" (page 18 of February 1960 issue), he suggests "Take 10 grains of brass as having the same **volume** as 1 grain of average powder." He also reports a test in which one lot of .30-06 cases weighing 200 grains and another lot weighing 180 grains were fired with the same moderate load of 4064 powder and 180 grain bullets, and the average velocity difference between the two lots of cases was only 42 ft. per second (20 grains weight or 2 grains powder **capacity** difference in cases). He also reported that 0.7 grains of powder equalized the average velocity difference between the two lots of cases (0.35 grs. powder per 1.0 gr. **capacity** variation).

Assuming Bob Snowball's equation of case weight to powder volume (capacity) and the report of his one test as a reasonably approximate guide for estimating the affect of case weight variation on performance, it would seem that the greatest variation in weight of any of the cases I weighed would have so little affect on the accuracy of loads in them that it would be extremely difficult for the average good shooter to detect.

A very considerable number of the very top competitive bench rest shooters in the country throw the powder charges for their match loads from a powder measure, being fully convinced that any small varaition in measured charges is a minor variable for the accuracy of their loads, but they **do use** carefully selected cartridge cases, and are especially concerned with the quality of the bullets they shoot.

Incidentally, for the .308 Winchester cases weighed, earlier checking had shown that 42 grs. of 3031 powder in the F. A. cases of 178 grs. average weight,

(Continued on Page Eight)

Cartridge Case Weight Variation

(Continued from Page Seven)

43 grs. 3031 powder in Remington cases with average weight of 169 grs., and 44 grs. 3031 powder in Western Super-X cases of 154 grs. average weight, filled those respective cases to approximately the height. Those loads were the **practical** maximum loads for those respective cases, behind the same 150 gr. bullet, **in the rifle I shot them in;** a Savage 110 MCL Featherweight. This would indicate that Bob Snowball's "10 grs. of brass equals 1 gr. powder volume" to be correct enough to use as a general guide.

It would seem reasonable to presume that a 10 grain variation in cartridge case weight need have no more affect upon average accuracy than might several other variables of the load, some of which might not even be known.

PHT

.30/.378 DATA

The following letter reports the first shooting data for the .30/378 cartridge that we have received.

Dear Phil:

You have told me that you are interested in how guns perform leaving the theory out. You will be interested to know that last year I fired a .30/378 over the 1000 yard D range at Camp Perry. I used 100 grains of 4831 behind a 180 grain Match King bullet, with an extremely long barrel. I consider this load to be too much for regular use with the thin web of the Weatherby .378 case. However, with a scope mounted 1¾" above the bore, the elevation difference between 200 and 1000 yards was 16.9" per 100 yards. The air temperature was 35 degrees F. Last month on the same range with an air temperature of 42 degrees F., I fired a Sierra 150 grain Spitzer bullet ahead of 104 grains of 50 M. G. powder. With the same scope height the elevation difference between 200 and 1000 yards was 27" per 100 yards. Incidentally, during this firing there was a 12 to 20 mile 7 o'clock wind and 6 shots went into an area 8" vertical and 18" horizontal. This load shows very mild pressure indications.

Very truly yours,
Homer S. Powley
17623 Winslow Road
Shaker Heights 20, Ohio

LETTERS

Dear Mr. Teachout:

I discovered your most informative magazine just a few months ago, and believe it to be the best paper for the shooter yet published.

Particularly interesting to me are the letters of Mr. Donaldson and the discussions resulting therefrom. He is one of the few in this shooting game who makes sense to me in the light of my own experiences.

I owned a rifle chambered for one of Mr. Donaldson's case designs, the .270 Donaldson-International, for six years; all around, it was the most satisfying rifle I've ever had. Unfortunately, this cartridge never received the publicity it deserved; I would suppose this might be due partly to its similarity to two existing factory cases, the .270 Winchester and the 7 x 57 Mauser. However, the Donaldson-International design does offer a few marked advantages over the standard .270 Win., one being noticeably better barrel life, another that it gives very much the same results utilizing a case of approximately 10 grains less capacity (depending upon your particular brass). As for the 7 x 57 Mauser, the only rifle in this caliber I've played with was a sporter of somewhat dubious parentage, so comparison was quite impossible.

During the years I shot this Donaldson-designed .270, I became firmly convinced that this case was the best possible one for the .270 caliber, and that it would be extremely difficult to improve upon this cartridge for Western shooting, both varmint and otherwise. I might point out that during this period I owned and shot seven of the highly-touted 6 m/m's, and a number of the .25's based on both the magnum and blown-out .270 cases. I've been really satisfied with NONE of the 6 m/m's - - it is paradoxical how well some of these 6 m/m's perform in drop tests compared with the big .25's, and how poorly they perform in the field in actual use when shot alongside these same .25.s The little Donaldson .270 performs both places, and without the relatively poor barrel life attendant to both the 6 m/m's and the "hot" .25's. A number of drop tests fired between 100 and 500 yards demonstrated that the little .270 was no more than a couple of inches behind any one of the so-called "hotshots"! The 110 gr. Sierra bullet chronographed 3457 f.s. at 25 ft. on Weatherby's Potter, and velocity variation from shot to shot was only 10 f.s.! My particular rifle had a Douglas barrel chambered and fitted by Douglas, with a 14" twist.

Also noted with much interest Paul Wright's letter in the April issue concerning "minute-of-angle" groups from the light-weight Magnums. First of all, out of hundreds of these rifles, SOME of them are going to give minute-of-angle accuracy, and a FEW are going to give accuracy one would expect only from a carefully-made bullgun. (Just how long they will remain this accurate is something else again!) However, the vast majority of these light Magnum hunting guns will NOT give minute-of-angle accuracy, and I believe Mr. Donaldson was concerned with the RULE, not the EXCEPTION. It is interesting, too, to note that the Weatherby rifles coming out of his plant at the present time seem to be accompanied by THREE-shot groups instead of the five-shotters formerly sent out with each rifle—whether this is because it is easier to put three shots into an inch than it is five shots, or whether Weatherby believes these three-shot groups are a better idea in view of the anticipated barrel life, I do not know!

The .270 and .30-'06 rifles mentioned by Mr. Wright in his letter can hardly be considered Magnums. It has been my pleasure to have had a number of sporter-weight .270 Winchester rifles around at various times, and there are very few of these which will not produce excellent accuracy, and consistent accuracy, with the right loads if everything else is in order. But these are NOT Magnums, even though standard .270 results very closely approach the results obtained from .270 caliber rifles using the Magnum case (rgeardless of some people's claims).

Sincerely yours,
Lloyd B. Luhman
Las Vegas, Nevada

THE .222 REMINGTON MAGNUM

Dear Phil:

For some time now I've thought of trying out the .222 Rem. against the .222 Rem. Magnum, both on the bench at 100 and 200 yards and in the field. I have had a .222 Sako in .222 Rem. caliber with which I have had very good luck when using 23 grains 3031 behind a 50 grain Hornady SX bullet. I have been making several long shots on crows, but I had never tried this load for drop at 200 yards; I usually have just sighted in an inch high at 100 yards and gone hunting. But this 200 yard test and field study had been in my mind all along.

Recently I acquired an excellent .222 Rem. 722 so I decided to rechamber it to the Magnum case and give this thing a whirl. Due to the factory ballistics the .222 Magnum hasn't had much of a popularity boost, but I searched out all the poop I had on it and came up with some good arguing points in favor of rechambering a suitable .222 to the Magnum version.

If you will whip out your trusty Speer Manual #3 you will find that my maximum load in the .222 Rem. of 23 grains of 3031 gives my 50 grain SX bullet 3272 f.p.s. and my pet load in the Magnum being a 45 grain Hornady .224" Hornet bullet in front of 28 grains of HiVel #2 is zipping along at 3700 f.p.s. This gives me 428 f.p.s. gain in velocity. But what of that if it doesn't shoot, so off I went to the range, 200 yards that is.

I found that my old pet load of 23 grains 3031 and 50 grain Hornady SX made a 1 13/32" three shot group 3½" below aim and 4½" below the center of my 100 yard group. I switched to the .222 Magnum, which was sighted 1" high at 100 yards. At this 200 yard firing my group printed i 1 60/64" and 3" **above** aim, and 2" **above** my 100 yard group center. I then tried a couple of other loads that I had loaded just to see how they shot. One was a 55 grain Speer in front of 26 grains HiVel #2. This printed 1" high at 200 yards, and 1" high at 100 yards, also. Then a 52 grain Speer bullet with 26 grains 3031 gave a nice 1 51/64" group dead center at 200 yards (it was 1" high at 100 yards). All of which proves, at least to me, that the .222 Magnum is one whale of a fine cartridge and can well be compared to the .219 Don. Wasp, which it is so close to.

Phil, lately with the larger caliber cartridges I've been getting better groups at 200 yards than at 100. I think this is because the larger bullets haven't "gone to sleep" at 100 yards. The other day we were trying out some 105 grain Speer bullets with the sharp point in a 1-12 twist in a .244 rifle I had built for a customer. At 100 yards the groups were lousy and the bullets were definitely tipping, making oblong holes. **But;** at 200 yards the group was about one half as large and the holes were cut clean and sharp, with no signs of tipping. Maybe some of the other fellows will be inspired to "disprove theory" and let us know what they find.

Sincerely,
Harold W. Harton
Lampasas, Texas

BEDDERS (letter excerpt)

. . . . . I find, as does Grigg, that a bedder usually tends to tighten the grouping ability of almost any rifle, and that it doesn't seem to make much difference where it is located, although from a practical standpoint, which also seems reasonable, I have always tried to get them out near the end of the forearm. I have frequently observed groups shrinking to one half previous size after the installation of my floating V-block bedder—everything else being the same. This in barrels of all weights. Although on flimsy forearm tips sometimes found

on sporters there does seem to be a problem of adequate stiffness to produce a uniform and optimum "interference."

Fred Seguin
Superior, Wisconsin

DOPE ON D. L. COOPER

By Kent Bellah

Of all the subjects I've written about, the most interest seems to be about my friend, Highway Patrolman D. L. Cooper, the Texas fast draw artist and exhibition shooter. He detests the word "exhibition" and calls it a "demonstration," which it is. It's superb gun handling and practical marksmanship. He has given over 500 formal demonstrations and two or three times that many informal shoots, in addition to the daily practice he feels is necessary. Some target shooters say daily practice isn't desirable. I agree with Cooper that you can't shoot too much, so long as it is fun.

I'm flabbergasted at the number of inquiries on fast draw. This is completely out of my line by modern standards. Cooper has it mastered in shooting for real, rather than drawing and firing a blank in the fastest possible time. Amateurs (some call them idiots) who play fast draw with live ammo are merely playing the new American Roulette game, which is the same as the Russian variety except every chamber is loaded. Cooper says that after the first million or so practice draws with nothing more lethal than blanks or CO2 gas, a shooter who can place slugs with accuracy might be qualified to use the fast draw to defend his life. Even then you take a chance! You may shoot faster than your draw.

Primer charges alone are okay. You can prevent set-back that ties up a gun by drilling out the vent hole to nearly primer diameter. As cases are ruined for ball loads, file a flat on each rim for identification. You can press the cases before priming in ½" of paraffin for indoor bullet loads. Hot .38 Special blanks are made by loading these cases with 3 or 4 grains of Bullseye, and seating a thin card wad. Either loads or blanks can cause a wound at close range.

On duty, Cooper uses a regulation holster. The Ojala rig is for fast draw demonstrations. It's made by Ojala Fast Draw Holster, 4726 Lankershim Blvd., North Hollywood, Calif. Ojala teaches gun handling to top Hollywood stars and many others. I'm no fast draw artist, but after trying Cooper's rig it's easy to see the speed advantage. It hands you a gun in the fastest possible time. (Note the handle position in the photo.) Lawmen of old would have swapped a year's pay for such an outfit. Outlaws would have swapped all the loot from a train robbery. Old timers never had it so good. It's strange that the fast draw holster is a modern development, designed after gunfighting became socially unacceptable. What a crazy, mixed-up world!

Cooper's favorite fast draw, shoot-for-real gun is a S & W .357. He uses many others, including the center-fire Rugers, and S & W .44 Magnum. Harvey Jugular bullets with hot loads in the latter are used to chop down good sized trees in speed fire. They do a beautiful and amazing job of wood chopping at full throttle, with light enough recoil that Cooper can keep the cylinder rolling like a spinning top. His recoil recovery is amazing. A couple of 3" trees topple over in about one second from one cylinder full, firing at waist level faster than

Texas exhibition shooter, lawman D. L. Cooper, with Ojala rig and S&W .357 ready for fast draw demonstration. Note the angle of his gun butt. (Photo courtesy GUNS Magazine)

I can count the shots. Few men can do this, including this writer.

Many people can "draw against a drop" and win with blanks. Few men ever lived that tried it for real. Cooper did it twice. Once was against a shotgun that nearly blasted him to Kingdom Come.

Merely drawing against a drop and firing, is speed, and speed alone, in demonstrations. Gun handling is a habit, and Cooper doesn't let his speed get ahead of his accuracy. In his profession a too-fast draw might goof a shot that would save his life, or the life of other good citizens. That's why he doesn't win some top places in "speed only" contests, that broke out over the nation. He recently lost such a contest to a lad who admitted he had never fired a live round in his gun, but used it only to trip a timer. Cooper (and this writer) have no beef with those who play this popular game, but we think it's hardly kissin kin to shooting.

Cooper practices one stunt until it's mastered, or about 99% perfect. For example, bursting a clay pigeon as it swings past another one, with the gun backwards and aimed in a diamond ring, is simply a matter of perfect timing and fair accuracy, under conditions the average shooter is not familiar with. You can do it. But don't expect to master it with one box of ammo.

Splitting bullets on an axe blade and breaking targets on either side is easier. Our boy goofed one of these shots on a show. Just why, he does not know, but he brooded about it all day! The stunt requires only accurate windage. He uses .38 wadcutters, the Hensley & Gibbs No. 50 BB. If time permits he casts them. If not, he likes the same commercial cast pill made by Accuracy Bullet Co., 40 Willard St., San Francisco 18, Calif., sold by many dealers. They are certainly the finest commercial cast bullets I've seen, inspected before boxing, and ready to load.

In private he can do this stunt nearly every time with a .22 Hi-Standard pistol. That isn't quite good enough for demonstrations. He says the Hi-Standard has adequate accuracy for the 15 foot range, but the round nose bullet has to hit nearly dead center to break both side targets. The larger .38 is an advantage here.

He also uses .38's for cutting playing cards. The .22 Hi-Standard works better on cards than the axe, as a hit doesn't have to be quite as well placed to cut the card and blow out a candle. When his candles (sold by a novelty house) blow out, they burst into flame a moment later, and are again shot out, over and over. With a dozen all-day-suckers lined up, the audience expects the candy to be hit. Cooper cuts all the sticks with one shot, and kids scramble for the suckers. This is a cinch, he says. Adults like it and kids love it.

Let's look at some factors that I think keeps Cooper in top shooting shape, vital to precision handgunning. He tries hard to make every shot count. Most people fire handguns without trying their very best. I do not mean Cooper tries for maximum accuracy with every shot. He doesn't. It's reserved for carefully aimed precision work. As an example, I've seen him make his fast draw and hit 6 tin cans in speed fire, rolling the cylinder FAST. Would he attempt the same thing with 6 empty shotgun shells? No. He isn't that good, and misses don't help your shooting. But he can and will blast the hulls with aimed fire, and he isn't apt to miss. He puts the same high value on "gun handling" as I do.

Hollywood may get a bit ridiculous with TV shorts that are as false as falsies, but a few stars do not handle guns like they were clumsy, unfamiliar pieces. That's more than I can say for some lads who have been busting live ammo for years. A good handgunner can outshoot those fellows with a rifle, under some field conditions.

Shooting off-hand, Cooper does about equally well aiming backward with a diamond ring. I've seen him shoot better aiming to the rear in high wind, because the gun had better support. After all, the sight picture is what counts any way you see it, for real, or in a diamond. If you can see and hold, you can hit.

Unforunately, says Cooper, some people like a "trick" show better than a shooting demonstration. So, when he plays "shoot-out" with a local fast gun, he may palm a tiny hide-out. At the signal he merely fires a blank before his opponent can draw. He puts a 3 x 5" white card over the muzzle of a revolver and splits a playing card. It looks difficult. You can do it, if you shoot with both eyes open, as Cooper and I do. Try it and see! You might sucker a friend out of a steak dinner with this stunt. If not, your friend doesn't trust you much.

Cooper uses a Colt .45 Auto for long sustained speed fire. Then a M1928 Thompson. Many people do not believe machine weapons have enough accuracy, or a shooter good enough control to cut out a bullseye or draw pictures. They do. Strange as it seems, a novice may over rate handguns and machine weapons, while riflemen often under rate them badly.

At a show you hear a strong pro-gun talk, and one on driver safety, with facts and figures on the carnage on our highways. Cooper rightfully considers cars a thousand times more dangerous than all the hoodlums with guns. This outstanding officer and upstanding citizen has food for thought for the anti-gun element. Being a good moral and religious man, with down-to-earth sincerity,

(Continued on Page Seventeen)

National Bench Rest Shooters Association, Inc.

NBRSA OFFICERS AND DIRECTORS FOR 1960

EASTERN REGION:
Irven M. Mohnkern (President)
232 So. Patterson
State College, Pa.
Paul O. Gottschall (Vice Pres.)
R. D. 4
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300 West Fourth St.
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NORTH CENTRAL REGION:
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Box 749
Custer, South Dakota

GULF COAST REGION:
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6507 Lakewood Blvd.
Dallas 14, Texas

NORTHWEST REGION:
Dr. Rod Janson
606 West Galer
Seattle 99, Washington

MISSISSIPPI VALLEY REGION
Ted Holmes
R. R. #1
Mattoon, Illinois

SOUTHWEST REGION:
(Director vacancy)

Secretary-Treasurer
P. H. Teachout
64 Depot Street
Lyndonville, Vt.

NBRSA MEMBERSHIP DUES:

Individual annual dues $5.00 (includes magazine subscription for membership term). Associate member (wife or husband, son or daughter under 18 years of age, of member in good standing—no magazine) $2.50. Life membership, $75.00. Annual club affiliation fee $10.00.

NATIONAL BENCH REST CHAMPIONSHIPS

VARMINT AND SPORTER CHAMPIONSHIPS at San Angelo, Texas, August 18-19-20, 1960. Contact Mr. F. L. Magoon, Box 909, Kerrville, Texas.

UNRESTRICTED BENCH REST RIFLE CHAMPIONSHIPS at Tulsa, Oklahoma, August 23-24-25, 1960. Contact Mr. E. A. Anderson, 3604 South Toledo, Tulsa, Oklahoma.

1960 BENCH REST MATCHES

EASTERN REGION

Detroit, Michigan: July 24; Detroit Bench Rest Club, Jack Roy, Sec'y, 2446 Hewitt St., Hamtramck 12, Mich.

Staunton, Virginia: Oct. 8-9; unrestricted bench rifle—varmint rifle if 10 or more entries; Stonewall Rifle & Pistol Club, Jim Perry, Box 471. Staunton. Va.

Augusta. Ohio: May 28-29. June 18-19, July 16-17, Sept. 17-18; Reed's Run Rifle Range, P. O. Box 66, Augusta, Ohio.

Dryden, New York: (Varmint rifle matches) June 18-19(July 9-10 (Eastern Region Varmint Rifle Championships), Sept. 11; Dryden Fish & Game Club, Russ Cuatt, Sec'y, 113 Park St., Ithaca, New York.

Plainfield, New Hampshire: May 22, July 16-17, Sept. 18; Plainfield Rifle & Pistol Club, Leslie R. Stone, Sec'y, Plainfield, N. H.

Easton, Ohio: June 11-12, Aug. 6-7; Chippewa Rifle Club, Nelson Berger, Sec'y, R. D. 1, Box 192, Marshallville, Ohio.

Southboro, Mass.: June 26, Aug. 14, Oct. 16; Southboro Rod & Gun Club, c/o J. W. Baldwin, 5 Milk Street, Westboro, Mass.

Lewistown, Penna.: July 2-3 (Eastern Region Bench Rest Rifle Championship); East End Blue Rock & Sportsmen's Club, c/o P. J. Aurand, Milroy, Pa.

Johnstown, New York: Sept. 3-4 (Annual Labor Day Shoot); Pine Tree Rifle Club, Wm. N. Hare, Sec'y, R. D. #1, Johnstown, N. Y.

MID-CONTINENT REGION

Kansas City, Kansas: Aug. 6, Oct. 15; Mill Creek Rifle Club, Inc., L. F. Carden, Sec'y, 2211 No. 44th St., Kansas City, Kans.

Tulsa, Oklahoma: June 11, July 16, Aug. 14, Aug. 23-24-25; National Championship, Sept. 18; Tulsa Bench Rest Rifle Club, E. A. Anderson, Sec'y, 3604 So. Toledo, Tulsa, Oklahoma.

Wichita, Kansas: May 28, July 2-3, Oct. 2; Wichita Bench Rest Rifle Club, Larry Engelbrecht, Sec'y, 122 Gow, Wichita 3, Kansas.

MISSISSIPPI VALLEY REGION

St. Louis, Missouri: Unrestricted bench rifle, June 5, July 10 (Mo. State Championship) Oct. 2; Varmint and Sporter, June 26, Aug. 14; Bench Rest Rifle Club of St. Louis, James R. Ernst, Sec'y, 2230 Ferncliff, Kirkwood 22, Mo.

Florissant, Missouri: Varmint and unrestricted rifle matches; contact Richard E. Davison, Sec'y. Nine Ring Sportsman's Club, Route 1, Box 812, Florissant, Mo.

Windsor, Illinois: July 23, Aug. 6 (night shoots), Sept. 25 (day—Mississippi Valley Regional Championship); Windsor Rod & Gun Club, Robert Adams, Windsor, Ill.

NORTHWEST REGION

Renton, Washington: Unrestricted bench rifles, June 25-26, July 30-31; Varmint and Sporter matches, June 12, July 10; Seattle Precision Shooters Club, Roy E. Meister, Sec'y, 3938 Ashworth, Seattle 3, Wash.

SOUTHWEST REGION

Yreka, California: Varmint, Sporter and unrestricted bench rifles, May 28-29, Sept. 3-4; Yreka Rifle Club, Inc., c/o Ray Jones, 508 Knapp St., Yreka, Calif.

GULF COAST REGION: San Angelo, Texas, National Varmint Rifle Championships, Aug. 18-19-20; contact F. L. Magoon, Box 909, Kerrville, Texas.

NORTH CENTRAL REGION

Custer, South Dakota: May 22 (Chuck shoot—Varmint & Sporter), June 12 (Sporter and unrestricted bench rifles), July 30-31 (Unrestricted, Varmint and Sporter); contact Walt Siewert, Custer, So. Dak.

Buffalo, Wyoming: July 16-17, Mid-Summer Bench Rest Matches, Buffalo Outdoor Rifle Club, Martin Pelloux, Clearmont Rt., Buffalo, Wyo.

Iowa Falls, Iowa: May 28-29, July 2-3, Sept. 3-4; unrestricted bench rifle, varmint and sporter rifles; Verle W. Hunt, R. D. #2, Ackley, Iowa.

BENCH REST MATCH RESULTS AT TULSA, OKLAHOMA

10 shot matches	Aggregates		
Heavy rifle	**100 yd.**	**20 yd.**	**NMC**
A. L. Day	.884	1.554	1.219
Ed Grishow	.938	1.651	1.294
Horace Powers	.995	1.931	1.463
C. L. Neumann	1.077	1.850	1.464
E. A. Anderson	.688		
H. W. Barton	.814		
Varmint Rifle class—5 shot matches			
L. E. Cornelison	.396	1.447	.922
Arthur Teague	.612	1.330	.971
J. Morgan	.861	1.290	1.075
C. F. Patterson	.730		

The Tulsa Bench Rest Rifle Club's first match of the season on the John Zink Range (day time) April 10th, had 10 competitors shooting in the Open Class and 9 in the Varmint Rifle Class. Gusty winds to 15-20 MPH and a heavy mirage made tight grouping difficult. "Red" Cornelison's five 5-shot match aggregate at 100 yards with 13 lb. rifle was outstanding. His smallest group at 100 yds. was .265 and largest .500.

AT WINDSOR, ILLINOIS

Aggregates:—	100 yd.	200 yd.	NMC
Harold Cole	.602	1.0476	.8248
Al Walter	.8032	.9218	.8625
Ted Holmes	.7836	1.7616	1.2726

Windsor Rod and Gun Club held their first Bench Rest shoot of the season on April 17, 1960. The weather was rather foul. Wind was 30 to 35 MPH and gusty with the temperature at 42 degrees. It rained off-and-on throughout the day.

NATIONAL MATCH VARMINT AND SPORTER EQUIPMENT

Information covering Varminter and Sporter Class National Matches to be held at San Angelo, Texas, August 18-19-20, 1960.

SPECIFICATIONS OF RIFLES TO BE USED.

HEAVY VARMINT CLASS:

The rifle may be of any caliber. Total weight with telescope and all other equipment, maximum 13½#. No limitation on the power of the telescope. The barrel diameter must not exceed .900 at the muzzle, or 1.250 at the breech. At no point between the muzzle and the breech shall the barrel diameter be larger than it would be with a straight taper from the muzzle to the breech. Minimum barrel length 22". The stock shall be of a recognized type such as the sporter type, the varminter type or the National Match Type. Stocks shall not be grooved to conform to any part of the equipment used as a rest. No rails or other devices shall be used. Stocks must be complete with forend and the maximum width of the forend shall not exceed 3". The maximum thickness of the butt stock shall not exceed 2⅛" at any point. The shape of the butt stock shall be such as to provide a taper with the depth of the stock being reduced from the toe of the stock to the pistol grip or in the absence of a pistol grip, from the toe of the stock to the rear tang screw. The section of the stock extending from the toe to the pistol grip or the rear tang screw shall be rounded in shape and no additions of any kind may be made to the butt stock.

LIGHT VARMINT CLASS:

The rifle may be of any caliber. Total weight with telescope and all other equipment, maximum 10½#. Maximum power of the telescope to be used 16X. Other limitations are the same as the prescribed for the Heavy Varmint Class rifles.

SPORTER CLASS:

The rifle may be of any .23 or larger caliber. Total weight with telescope and all other equipment, maximum 10½#. Maximum power of the telescope to be used 8X. Other limitations are the same as those prescribed for the Heavy Varmint Class rifles.

The maximum weights prescribed for the rifles apply with the rifles equipped exactly as the rifles will be used in firing on the benches. Rifle stocks shall not be cut away to a framework to meet weight requirements, but must present a normal appearance. Mechanical triggers only may be used on all rifles.

MAXIMUM RESTS TO BE USED:

Regular bench rest pedestals may be used with a plain sand bag only in the cradle of the pedestal. The pedestals used may be fully adjustable. The construction of the cradle or other parts of

the pedestal must be such that the horizontal movement of the forend of the rifle will not be restricted. A sand bag or sand bags may be used under the butt stock of the rifle and the sand bag or sand bags are to be the only objects or devices to be used between the butt stock of the rifle and the bench while the rifle is being fired in competition.

DEFINITION OF A SAND BAG:

Sand bags may be made only of leather or fabric and sand. The material used to confine the sand may be sewed or secured with adhesive. All sand bags must be pliable and shall not contain any rigid material whatever.

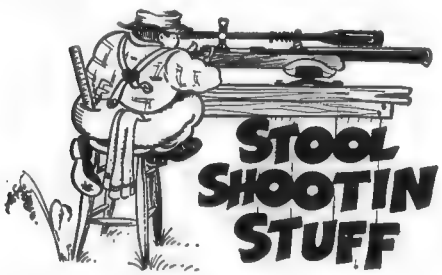
COURSE OF FIRE:

The National Match Course of Fire will be five, 5 shot matches at 100 yards, and five, 5 shot matches at 200 yards. This will apply to all three classes. The M.O.A. aggregate for each class shall determine the winners in each class. There will be no grand aggregate for a combination of the three classes.

TARGETS:

FOR THE VARMINT CLASSES the regular BR100 and BR200 targets will be used. A special target will be provided for the SPORTER CLASS. This target is essentially the BR200 target with a 1" black ring around a 3" inner area which in turn contains the usual rings plus a ½" ring in the center. This target has been tested and found to be satisfactory for the sporter rifles.

(Editor's note: The foregoing information was supplied by Mr. F. L. Magoon, President of the Texas Bench Rest Shooters Ass'n, which is sponsoring the first National Varmint Rifle Championships. The equipment requirements listed have not been officially approved by the NBRSA board of Directors at the time we print this but there will probably be no more than minor changes made before their approval.)



This birdseye view of the rifle range and surrounding area at San Angelo, Texas, where the first National Bench Rest Varmint Rifle Championships will be held in August, is from a photo made prior to the firing of the 1956 National Championships which were fired here.

STOOL SHOOTIN STUFF

Dear Phil:

It was nice to get together with you at Bennington and talk over a few bench-rest subjects as well as make plans for the future of Precision Shooting as far as our magazine is concerned. I believe our progress is indicative of the way in which the magazine is received with much favor among rifle shooters throughout the country and the pistol shooters are growing to enjoy it, too. The products which we have advertised have been of the better grades and I am sure that the manufacturers of them must receive response through their distributors.

The decision to try to hold a summer meeting of the stockholders as they attend some of the larger Eastern shoots, will undoubtedly bring together fellows who can make constructive suggestions. I appreciate that the proxies which are sent in are evidence of interest in the publication but they can't really take the place of a shoulder to shoulder meeting. It is easy to see that such a meeting would not work out in winter time as Merrie and I had hard enough time making it home Saturday night as we cut through the mountains. We ran into a rather formidable little blizzard that made visibility very bad and in some cases the road was treacherously slippery.

The little conversation that you, Bob Stinehour and I had about bench-rest shooting really wasn't long enough as I am sure all of us had subjects that we could have talked on for many hours. As a matter of fact, Phil, I think these talks that we have are one of the intriguing features of benchrest shooting and it is for that reason that we all enjoy the matches that are not so badly rushed and where we are left a little time to visit one another between the relays.

It might be well to reduce to writing some of the beliefs that I have on oxidizing cores, versus the system of cleaning them with carbon tet or a similar cleaning agent. Those who favor the oxidizing system believe that the oxidized surface bites into the copper better, and through this gripping action stretches out the jacket as the ogive is formed. Such may be the case but I am not sure it is advantageous. In the first place the oxidized core must be seated in the jacket and the seating system must expand the jacket. Recent practice is to expand the jacket almost .002", as most jackets come through about .222" in size. Whereas jackets come through nowadays with very uniform wall thickness, there is almost invariably one section of the wall that is a little thinner than the other. Too tight a gripping surface between the heavily oxidized core and the inner wall of the jacket further reduces this thin wall section area to a point where the wall thickness of the jacket around its whole perimeter is no where near as uniform as the jacket was before the core was seated. It is true that the lead flows in to back up this thinner area and since the differences in specific gravity between the lead and the copper are of small magnitude, the bullet is not very far out of balance, but since we are striving for perfection, the least possible amount of out-of-balance is to be preferred. The oxidized core may also not seat as perfectly as does the chemically clean one because the friction may be built up so high at the junction point of the punch and core that the jacket may be fully expanded at that area and still the core not be absolutely tight or the jacket not fully expanded to the dimensions of the core seating die at its lower area

When the bullet swaging stage is reached, the tight gripping oxidized cores further rob the thin area of the jacket and as the lead squeezes up with the forming of the ogive, a longitudinal stretching occurs above that thin area and we end up with a point that is slightly longer at one place on the periphery. I don't have measuring devices delicate enough to absolutely prove these theories to myself or to your readers, but I have noticed and I believe you will, too, if you experiment, that oxidized cores do not deliver from the same lot of jackets as uniformly pointed bullets as are obtained when cores are used which have been cleaned with carbon tet. The points will not be quite so round and one side of the open point will be higher than the other. Here, too, we may not be able to see the difference in shooting but I, for one, like to shoot bullets that have nice looking points on them.

To reduce my theories to the measurement stage, I can say that a normal lot of .705" jackets is reduced to about .696" when the cores are seated and the jacket expanded up to .2240". It is remarkable that this dimension grows in length again to an overall dimension of .709" or more as the ogive is formed. This final dimension is affected by minor variations in size and the quality of the copper in the jackets, and, in several instances, I have noticed bullets coming out of the die at .711". Whatever the caliber of the bullet may be, I always try to adjust the dies so that the bullet comes out at the longest possible length, and for target bullets, with the smallest and most perfectly round hole. I have always

(Continued on Page Twelve)

Stool Shootin Stuff

(Continued from Page Eleven)

been skeptical of the shooting quality of bullets when the jacket flows up into the ejection pin area, and likewise, I dislike bullets that show too deep a penetration of the ejection pin into the point. This ejection pin impression can be eliminated almost entirely by properly setting the ejection frames so that they have very little distance to travel before bringing the pin in contact with the point of the bullet. Those who do not use ejection frames and still are using the aluminum mushroom shaped knob supplied with the dies, must be very careful in the pressure applied. I have seen fellows use a rawhide, a rubber mallet or piece of stick to tap the plunger down but I believe this is bad for both the dies and the bullet and it certainly slows up production.

I lubricate my lead wire in 4' lengths with a patch moistened with Hoppe's and I rarely have trouble with plugged bleed holes. I clean the cores with carbon tet in a mason jar, with sufficient liquid to well cover the cores, usually about 1000 at a time. I change the cap on the jar to a perforated one and turn the jar upside down on a wide mouthed funnel that has been covered with a paper towel and insert it in another jar and the carbon tet is cleaned reasonably as it drains through. The cores are as bright and shiny as a new dime as I spread them out on another paper towel to dry.

I found nothing quite equals B & A's lubricant for the core seating stage and with all the gadgets that I have tried, I always come back to preferring lubricant moistened thumb and fingers on my left hand as I cap the open mouth of the jacket over the proper size punch to leave no bleed-by or, what is worse still, a scoring of the copper caused by the punch diameter being too large. No further lubricant is needed as I swage the bullet to the final shape, but I do think the bullet should be processed in some convenient manner to remove the lubricant after it is finished. I generally do this by sash-shaying 200 or 300 back and forth in a clean turkish towel from which they are easily slid down in to the glass jars which I use to seal them free from dust.

In Bob Stinehour's paragraph the other day, he spoke of having trouble in cocking a die as he pulled down the lock nut too tightly. This might be possible if the fit between die body and the threads in the press are sloppy, but with a normal fit it is pretty hard to cock much in the 1⅛" of threading area usually provided on the presses, but I agree with him heartily in going easy on the big wrenches and I meant to tell him the other day of a gadget that I have that I have found mighty handy with the dies, the lock nuts and the knurled or hex hold-down nuts used to position the punch and the ram.

I am sure most readers probably can do what it did. Your wife probably has hanging around somewhere in the kitchen or in a bunch of discarded clutter, an old set of U shaped nut crackers. They are just the thing for tightening or loosening those nuts—a little stronger than fingers and not so hard as a wrench. The metal used in the jaws is usually of a mild steel and they don't damage either nuts or knurling, with reasonable hand pressure. Incidentally, they have knurling or turning on them that would cost us a pretty penny if we had to have a gunsmith do it today, and they clearly show how far a couple of bits went in the monetary value of their day.

The picks that went with that nut cracker set also come in pretty handy around the bench. On my RCBS press, Type B or Junior, I use a knurled cup shaped punch hold-down nut to which I have my lower ejection frame clamped. It is a great gadget for pinching fingers if one is not careful and I have developed a healthy respect for it. As the cores are cut, they have one end more wedge shaped than the other and I obtain more uniform cores by inserting the wedge shaped end up into the die just as the punch comes in contact with the opposite end. My normal operation is about 1200 cores per hour which means that you have to get your fingers out of the way pretty fast. Sometimes I let go of the core a little too soon but that is better than pinching your fingers badly as the up-stroke is already started. The core drops down into the cup and is deformed and jammed against the base of the die. This brings us back to those little picks I started talking about, because they are just the thing for snagging out one of those deformed cores from the bottom of the cup.

Well, Phil, at this time I am torn between going to the Staunton, Virginia, match or Doc Garcelon's gun auction in Maine. I went to one of those auctions last fall and enjoyed it very much, but I am afraid the old bug for competition has got me and I have always enjoyed that early Staunton shoot. It is a fur piece away and will probably be the last trip for my old Stool Shooting Safari Wagon because there is a new one on order that I'll have to depend on to get me to the matches during the summer.

Cordially yours,

Ernest Stinehour

A MILLING SET-UP PROCEDURE
By Dermot C. Reilly

All milling machine arbors and boring bars have some runout. Therefore, no measurement with relation to an arbor or bar will be accurate with relation to the spindle axis unless the runout is compensated for.

The following method of establishing the knee setting of a horizontal milling machine preparatory to boring a hole whose axis had to be held to a tight tolerance distance above a flat parallel to said hole axis was used on runs of diesel parts in Reilly Machine Works and proved to be convenient and accurate.

The radius of the boring bar measured at a perfectly round spot was added to the specified height of the bore axis above the flat (which was finished before the hole) and a planer gage set to the sum of the two dimensions. A dial indicator was clamped as closely as conveniently possible to the shank of a Brown & Sharpe magnetic base, which was engaged to the upper working surface of the table, and the indicator adjusted to zero on the planer gage standing upon the extension of the surface against which the reference flat had been set to bear. The magnetic base was then disengaged and gently slid and turned on the table until the indicator stem contacted the high point of hte measured spot on the bar, and the base re-engaged. The knee was then raised by hand feed, with the spindle turning slowly under power, and the knee-column lock gradually tightened until the indicator dial oscillated equally on both sides of zero, and the lock screw was made up. The indicator was then rechecked against the planer gage.

Trial cuts for knee setting were eliminated and little difficulty in holding .001" was experienced.

BEGINNERS CORNER
Robert F. Stinehour

Like Sam Rothrock, most of us have loaded our cases with **"26 grains of nothing"** at some time or other. It doesn't work well, but some times 26 grains of the wrong powder isn't too bad. This happened to me at Johnstown last Fall. In the past I've gone to matches with old black powder cannisters and cannisters with every number in the book, but filled with 3031 powder. It backfired on me at Johnstown. I had a carton of cannisters in my wagon of assorted powders, 4064. 4320, 4198 and 3031, in case some of the boys might run short.

All morning the first day, Thursday, I wondered why my point of impact was over an inch lower than normal. After finishing five matches, **and placing in three of the five,** Phil Teachout stopped by the loading bench to chat. He looked at my 4064 powder can setting on the bench and said, "I see you're still kidding the boys, Bob. Shooting 4064 now, huh?" I did a double-take at the can and sure enoguh I had grabbed a can of 4064 when I had five cans **marked** 3031 in the wagon. All day I'd used the 4064 and never looked at the number on the can.

I tell this story for this reason: This and other **foolish** things have proven to me that there are very few things that are **really** important in precision shooting. Too much emphasis is often placed on unimportant things and not enough on the important ones. Many of the things we shooters believe in are all in our head, so to speak. As long as I **didn't know** I was shooting 4064 it worked wonderful, but if I went out with the same load tomorrow, and knew it, I probably couldn't hit the paper.

In **some** cartridges different primers can be spotted quite easily. Many people tell me they can see difference between Federal and Remington primers in the .219 Don. This I question as being another of those things as being all in the head. At several matches last summer

I shot both, **MIXED**, five of each in a ten shot target, and couldn't tell one from the other. Perhaps a different lot than the two I used would be noticeable, I don't know, but I sure wish I could shoot well enough to see the difference.

SCOPE TIPS: Many shooters travel to matches with their scope and rifle separated. Often they don't have a chance under perfect conditions to sight in, going by the scope settings in "the little black book."

If they don't have the chance to sight in under **perfect** conditions, and the scope didn't go back to absolute zero, which few will do, they are defeated before starting. To "hold off" properly for a condition one **MUST** know the exact point of impact under perfect conditions. For this reason I never click my scope regardless of how bad the condition is, for if the condition changed I would have lost my measuring stick and not know where to hold.

My scope stays on my match rifle unless it is absolutely necessary to remove it, for testing another rifle or something. If it is removed between going to one match and another, I make sure to get out to the bench under perfect conditions for at least one group prior to going to the next match.

I don't think I'm exaggerating a bit in saying that many shooters go through a complete aggregate with their impact as much as .10 off of what they think it is. When one needs every .001 they can get these days, you can not afford to give away .10.

My two scopes both have ¼ minute dots, and since I'm more or less a round peg in a square hole, I shoot this way also. That is, I use the round dot in the aiming square. Few of us do this, but this is my measuring stick. In a swimming mirage the square stands out much better for measuring than using the scoring rings.

LATE BENCH REST MATCH RESULTS

RENTON, WASHINGTON

Eighteen competed in the first of four unregistered Varmint and Sporter rifle matches on the Renton, Washington, range, April 10th. The matches are conducted by the Seattle Precision Shooters Club. A three 5-shot match aggregate is fired with each class of rifle, and a grand aggregate for the combined classes. Varmint class matches permit rifles of NBRSA Heavy Varmint type, while sporter class permits rifles of 10 lb. max. weight with 10X max. scope power. Each day's match is fired at one distance, the April 10th match being all at 100 yards. The aggregate winners were:

	Sporter Rifle	Varmint Rifle	Grand Agg.
Ed Frombach	.679	.566	.622
Amos Frombach	.552	.825	.688
Roy Meister	.893	.531	.712
Stan Baker	.864		
Ralph Lathrop		.472	
L. E. Wilson		.516	

ST. LOUIS, MISSOURI

The St. Louis Bench Rest Rifle Club held its first match of the season on May first, for hunting rifle and light varmint rifle classes. Weather conditions were good with a light but tricky wind. Aggregate winners were:

HUNTING RIFLE	100 yd.	200 yd.	Agg.
Marlin Gray	1.041	.983	1.012
Ed Sharpe	1.253	2.236	1.744
Jim White	1.911	1.660	1.785
Art Freund	1.210		

LIGHT VARMINT RIFLE

Leo Fieser	.816	1.075	.945
Jim Ernst	.845	1.308	1.076
Linda Ernst	.982	1.453	1.218

Linda Ernst is a junior shooter and shot a rifle chambered for the 17 Javalina cartridge. This is Linda's second season of competition.

THE INFORMATION BENCH

The Information Bench service is available to all Precision SHOOTING readers. With your questions, send a large, stamped, self addressed return envelope for a reply. Selected questions and answers, covering as wide a variety of interests as possible, will be published in these columns. Address your questions to the following people.

Bench rest, varmint and hunting rifles, accessories, handloading, components and shooting methods—**M. H. Walker, THE INFORMATION BENCH, RFD #1, Box 118, Mohawk, N. Y.**

NRA and Free target rifles and shooting—**Roy F. Dunlap, 2319 Ft. Lowell Rd., Tucson, Arizona.**

Sporting handguns and loading—**Kent Bellah, Saint Jo, Texas.**

American Single Shot Rifles—**Rupert S. Hill, 325 James St., Elkhart, Indiana.**

QUESTION: In the 1959 GUN DIGEST I became interested in the Harvey Jugular bullets, and am using the 170 grain in my S & W .44 Magnum. They are very fine bullets, but the sight will not adjust enough to center groups with a 6 o'clock hold. We carefully increased your top load from 28.2 grains to 30 grains of 2400 without signs of pressure, which helped a little. What else can I do? L. E. W. Roberts, San Salvador, El Salvador, C. A.

ANSWER: Some (but not all) revolvers do not have sufficient sight elevation for a 6 o'clock hold with light bullets. You can often solve the problem as I do by using a dead center hold. If this isn't satisfactory, you can make a higher sight slide, which is nice for 500 or 600 yard plinking. I also made a clamp-on slide to fit over the windage screw, so the gun could be left sighted-in for the 100 yard range I like. A friend soldered a new slide on the original one, as he uses light bullets exclusively.

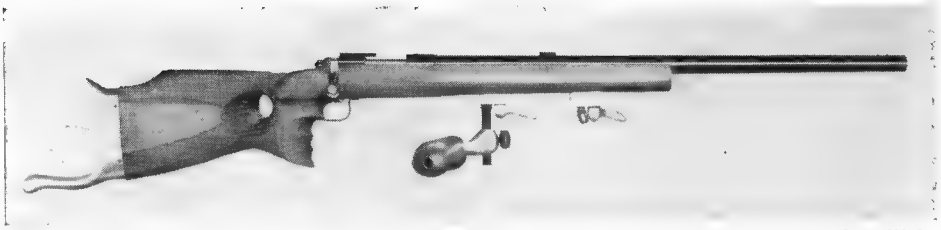
The top loads I've listed in the GUN DIGEST, GUNS, and this journal, were worked up with care to allow a large margin of safety, due to the variations in guns and components, and the fact that some powder-happy lad might ruin a good gun, or worse. I've compressed 2400 charges, using a dowel, so the case would hold the charge. These are not recommended, and will not be published. However, your gun and components are evidently OK with 30 grains of 2400, which is a slightly compressed charge. Primer cratering is not necessarily an indication of excessive pressure in a .44

(Continued on Page Sixteen)

WHAT'S NEW

The Remington Arms Company has recently announced that it will supply a limitde number of custom made target rifles for international type target shooting as well as a center fire version of the 40X target rifle.

The International type rim fire rifle is a single shot, 40X type bolt action, .22 caliber. It will be furnished with rubber butt plate and hook type butt plate, and palm rests will be furnished. Stock and fore-end will be rough turned so that shooters can finish to their individual requirements. Rifles will be furnished without sights but with scope blocks. They will accommodate either Redfield International or Olympic metallic sights. Two versions, one with a ½ oz. trigger and the other with a 2 oz. trigger, will be offered. Heavy barrels will normally be furnished but standard barrels will be available on option. Stocks with different cheek patterns for offset sights will be available if specified. Retail price of the 2 oz. trigger model will be $317, and the ½ oz. trigger model will be $478.



Remington International Type Free Rifle with rough turned stock as it will be available to shooters.

The International type center fire rifles will be identical to the rim fire versions except that center fire versions will be offered in 7.62 and 30-06 calibers. Any other center fire caliber which Remington now chambers a gun may be ordered special. Prices will be the same as for rim fire rifles.

In addition to the International type rifles, Remington will also furnish a new center fire version of the 40X "Rangemaster" 22 caliber target rifle. The new rifle will be offered in 222 Remington, 244 Remington, 300 H & H Magnum and 30-06 calibers. The rifle will be identical in every other respect with the rim fire 40X. The list price, without sights but with scope blocks, will be $165. If desired, international type triggers can be furnished at additional cost.

All three of the new target rifles will be furnished on special order only. Delivery of the new guns is expected to start about September 1, 1960.

We believe Winchester will also furnish international type target rifles in limited numbers, as custom jobs, on special order only. Check with your Winchester dealer if interested.

Western is now supplying new target grade 22 rim fire specially designed for pistol target shooting, in .22 short for International rapid fire matches and, most recently, in 22 long rifle.

Most of the new items and improvements in weapons are in the hunting gun field. That is where the volume sales exist and, quite naturally, the manufacturers are interested in that sales volume for the profits which keep them going businesses.

Improvements that will please a lot of hunter riflemen are the new shotgun type tang safety and the improved trigger mechanism on the time-tested Model 99 Savage rifles.

A new name in the firearms field is the Jefferson Corporation, 112 Quinnipiac Avenue, North Haven, Conn., which is manufacturing center fire and .22 rim fire hunting rifles, and shotguns. Their center fire hunting rifles have FN Mauser actions and barrels have a 12 groove ratchet, swaged rifling. Catalog may be obtained upon request.

ZER-O-ING RIFLE REST

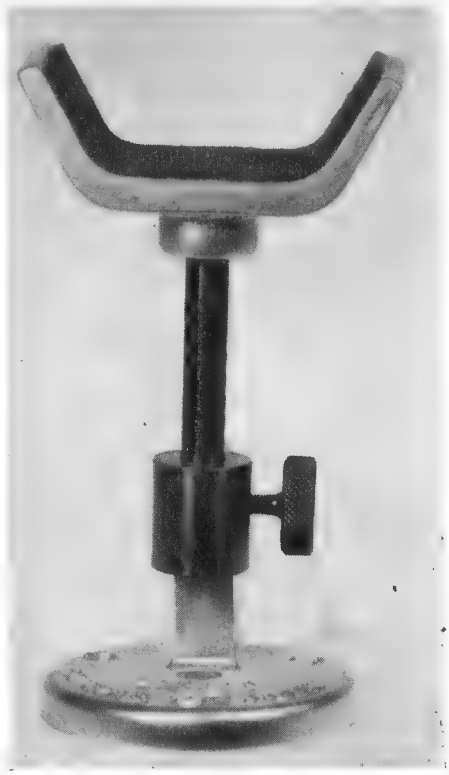
I have been trying out one of the Zer-O-ing Rifle Rests, made by the Forster-Appelt Mfg. Co., Inc., Lanark, Illinois, and find it to be a very satisfactory, practical and serviceable item. I think it has a much wider field of service than that for which it was primarily intended—a light, compact, easily transported rest for checking rifle sighting in the field.

The rest assembly is simple and may be quickly dis-assembled for packing in a minimum of space, and just as quickly and easily re-assembled for use. As shown in the illustration of the dis-assembled rest, the resting tray may be removed from the post by loosening one screw, allowing even more compact packing. Elevation of the resting tray is simple, fast, and positively locked by the generous size knurled head set-screw.

The base of the rest is too small in area to give stability for extended use, but it would probably serve as-is- for the few shots necessary to check rifle sights at the hunting site before going afield with the rifle. However, the base has three holes for woodscrews which permits fastening the rest to the wooden top of a shooting bench, or to a piece of board having area enough to give good stability to the assembly.

The resting tray is covered with felt to prevent marring the forearm of the rifle. The tray is wide enough to accommodate forearms of the Marksman target type. For rifles with the narrower sporter forearms, a rather small, not too tightly packed sand bag on the tray would undoubtedly provide more uniform positioning of the forearm. I haven't tried that yet. I am convinced that for the few shots necessary to check a rifle's sighting, the sand bag is not a necessity, and that the tray, as-is, will be quite satisfactory.

I have mounted the Zer-O-ing Rest I have on a piece of ⅜ inch plywood approximately 10 X 12 inches in size, with wood screws. On each of the forward corners of the plywood base I have a wood screw about 1½" long, and a simi-



Forster-Appelt "Zeroing Rest" with cradle extended to full height.

lar screw near the center of the rear edge of the base. By turning in the wood screws so that their points just protrude through the bottom of the base, the light rest and base assembly does not slide around on a bench top. On a rough bench top, the three screws can provide a three-point tripod support to prevent the base teetering. Trial shooting indicates this a suitable stable pedestal rest for the rifle, as well as being a light and convenient rest to transport and set up. I anticipate that I shall use this Zer-O-ing Rest for most of my rest shooting of sporter and varmint rifles. The tray of the Zer-O-ing Rest is not wide enough to accommodate the wide forearms of the specialized Bench Rest rifles, but that is a specialized branch of rifle shooting for which specialized equipment is desirable or necessary.

At the $8.95 cost of the Zer-O-ing Rest, it would seem a desirable and useful accessory for the rifleman who does considerable accuracy testing from rest, especially those who shoot from portable benches and to whom compactness and lightness are most desirable features.

PHT

Trig Table In The Head

(Continued from Page Three)

Tangents are of course the quotient of the sines divided by the cosines.

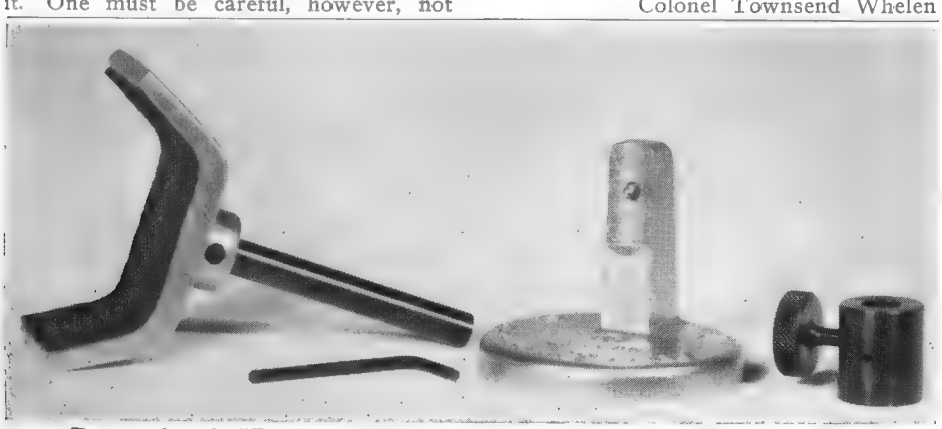
The rifleman's sighting-in rule (a minute of angle is equivalent to 1.047 inches movement on the target per hundred yards) is accurate for computing sines and tangents of small angles and doesn't involve Pi as a factor.

The question arises, "Why go to a lot of work to get what you can read in a table?" The answer is simply that bright ideas have a habit of coming up when the experimenter or ballistician is in the Army, in jail or, happy happenstance ,in a hunting camp where he hasn't access to tables. The foregoing is a means of working out the mathematics of the bright ideas when they are hot.

BALL POWDER FOULING

I saw somewhere the remark that Ball C powder gave a rather tenacious foulnig, that it was best to clean with a brass brush after every ten shots for best accuracy. I have not had this experience. I have done a pile of shooting with this powder, in many calibers, often firing a whole morning with it in one rifle with no cleaning, and no indication that the fouling interfered a bit with the accuracy. In fact the best groups have been obtained after the bore has been fouled with 25 to 40 shots. The accuracy obtained in .222 Rem., .243 Win. and .308 Win., together with its low cost and its total lack of erosion certainly recommend it. One must be careful, however, not to exceed a moderately heavy load with it.

Colonel Townsend Whelen



Forster-Appelt "Zeroing Rest" as it may be disassembled for compact packing. The cradle also detaches from the elevating post.

The Information Bench

(Continued from Page Thirteen)

Magnum. Difficult extraction in this caliber is a definite indication, provided your chambers are perfect. Additional pressure may expand chambers. Kent Bellah.

QUESTION: Some Remington brass in .22 Hornet shells in the same box is two different colors. Is it the same kind of brass? My first bullets for a Hornet revolver were stamped "37 Gr. Hollow Point .22 Cal. Sisk Pistol Bullets." The newer ones have a red printed label: ".224" .22 Cal. Sisk Bullets. REVOLVER. 37 Gr. Hollow Ponit." Are these alike? J. H. Akers, Dallas.

ANSWER: I do not believe you can tell any difference in brass by the color alone. After your letter came, I polished some with a household copper and brass cleaner and they all came out the same color.

Your Sisk bullets are identical. Mr. Sisk boxed the first lot of 15,000 before labels were available. The word "Pistol" is not correct, as there was not, and is not a pistol for centerfire .22's. I hope we have one soon. The word "REVOLVER" is used to avoid confusion with rifle type bullets.

The "Pistol Bullet" boxes must be collectors items. A customer offered me $1 for an empty box. He could have had it free. He wanted samples of the several experimental bullets Mr. Sisk made when we were trying to find the most efficient pill for the Harvey Kay-Chuk. Unfortunately, these are gone, except samples for my collection, which are not for sale. The final design was tested by some of the big arms makers before the .22 WMR round came out, using a quite similar bullet. My design has a larger hollow point, with more lead exposed at the nose. Kent Bellah.

QUESTION: I have rebarreled a 1917 Colt .45 with a 9¾" Thompson Sub-Machine Gun barrel. How much velocity will it gain? Leland H. Hindle, Jr., Honolulu 15, Hawaii.

ANSWER: My 10" custom barreled Colt .45 with .003" clearance between the barrel and cylinder chronographs about 955 fs, a gain of slightly more than 100 fps. You can certainly tell the difference on the terminal end. Kent Bellah.

QUESTION: I have a couple of problems that you may be able to help me with. The first one is; do my cases (.244 made from .30-06 brass) need in line reaming? When I insert a case into the chamber of my Hart barrel, I get a burnished area on the bullet. Except for a few, maybe five out of fifty cases, this is the rule.

Second; would you give me your considered opinion on the relative merits of the .219 Don, .222 Magnum and the .222 Standard for bench shooting; all things being equal in regards to barrel, stocking and loading qualities? I have come into a 722 receiver and would like to start another bench rifle for strictly 200 yard shooting. I currently have a .222 in a Mauser action but have heard comments as to its capabilities. I shoot about .600 at one hundred yards with it, and then not all the time. John C. Farrell, Staten Island, N. Y.

ANSWER: It is difficult to check the wall thickness variation of the case neck without wall micrometers. For this reason it would be very desirable to check the diameter of the loaded cartridge at the neck against the fired case at the neck to determine whether you have at least a minimum of .002" clearance. If you have less than this, then your case necks will require reaming.

I am not sure there is any choice between the .219 Don, .222 Magnum and .222 Standard. Statistics from the bench rest shoots indicates there is no difference. In my own experience I feel that the .219 Don. with large primer works better when the temperatures are 70 degrees or below, since the larger primer tends to over ignite when the temperatures are high. Both the .222 Magnum and .222 Standard are hot weather cartridges and work best when temperatures are 70 degrees and above.

If you are not able to average .35" at 100 yards for five 10-shot groups under the best conditions, then you will not win many 100 yard aggregates. Under the same conditions you should average .80" at 200 yards. M. H. Walker

QUESTION: I am having a varmint rifle made by a well known gunsmith and stocker and have been wondering how I should request that the action and barrel be bedded to the stock. The action will be an F. N. Mauser, the barrel a 26" medium heavyweight, and the stock will be solid walnut with a 2⅜" wide heavy forearm extending this same width to rear of receiver for added stability. Such equipment means an awful lot of weight, but that is practically a must when accuracy is my foremost consideration. My caliber will be one of the 6m/m's, probably a .243 or a .243 Rockchucker.

Bearing in mind the fact that each individual rifle performs didfferently, will you please advise me as to the type of bedding which you think best suited to my situation; whether or not fibre glass should be used, and if the barrel should be tight against the stock or free-floated?

Would you also please advise me as to whether a heavy target type scope such as the Balvar 6X24 variable would affect the accuracy and performance of such a rifle, since the forward mount must be fastened on the barrel? Mark Watson, Fruitland, Md.

ANSWER: I would bed the action plus 2" of the breech end of the barrel in the stock without glass. Although this has not been tried by me personally, there have been several good reports on this method of bedding the Mauser.

The additional weight of the Balvar 6X24 should not hurt the accuracy. If it were possible to measure the difference by test it is more than likely that the accuracy would be improved.

The best accuracy so far with the 6 m/m's has been obtained with 75-85 grain bullets in 12" twist. If you expect to use it only for varmints and target I would recommend the .244 Remington in 12" twist. If you expect to shoot heavier bullets than 90 grain, then 10" twist is indicated. M. H. Walker

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THESE PAGES are available to you readers for reporting information or discussing any problem regarding rifle and handgun shooting, weapons, accessories and hand loading ammunition. You are invited to make full use of them.

Dope On D. L. Cooper

(Continued from Page Nine)

his talks are impressive.

After a shoot he starts the 100 mile, or 1,000 mile trip back to a happy home. His good wife, Jocie, and darling 5 year old daughter, Kathy, make him proud of being a family man. If that isn't enough, he has a deluxe workshop, packed and stacked with "things" you and I like. Everything is as neat and clean as the uniform he wears with honor. He isn't on my list of People I'm Sorry For.

To keep well informed, he reads all the best gun books and magazines, including this one. Like me, he learns much from them. He doesn't claim to know "all about guns" but some people expect him to. Questions come thick and fast at demonstrations. One morning he read something new in GUNS Magazine that let him give an informed answer at a shoot that evening. I agree fully when he says the hardest questions come from beginners or a complete novice. They either believe a gun can't do what it does, or that it will do what it can't. Tell 'em about some fine groups and they think it isn't possible; talk "average" and they think you're a lousy shooter if they can beat it once.

Cooper's room full of trophies won in local, state, national and international competition will remain static. He doesn't have time for competition any more. It's a full time job to be a good husband and father, and good officer, do handloading and demonstrations, plus practice shooting. In addition, he has a hobby. It's varmint shooting with a handgun. For this he uses Harvey Jugulars in a .357, stuffed with powder like a Christmas turkey. He hollow points the 127 grain pill with the Forster Precision Case Trimmer, using their Hollow Point Accessory, which he prefers to the swaged-in hollow points. Loads vary, but he was using 19 grains of 2400 a few days ago. Like many of my friends, he is a busy busy man, and our happy hours of companionship have been too few, at my home, his home, or in the country. Shooters have the best friends on earth, bar none!

LOADS, GUNS AND WRITERS

By Kent Bellah

The wrecked Model 70 on the February cover explains some things I've yapped about for many years. The Model 70 action is "strong" but the safety of the rifle depends on a thin brass case, that is not completely enclosed at the vital head. If a case lets go in rifles of this type, due to an invisible defect in the case head or an excessvie load, brass and gas under high pressure may wreck the piece, although the action "holds." The bolt lug cuts in the receiver are aimed right at your right eye.

Weatherby Mark V actions eliminate the bolt lug cuts and completely enclose the cartridge. While F. N. and Remington actions have bolt lug cuts similar to the Model 70 and Springfield, I think they enclose the cartridge better. I've had case head separations in an F. N. with no harm done to the rifle. A .300 Weatherby Magnum (Mark V) was test fired with a terrific overload, yet the primer pocket was not expanded, and I reloaded it with another charge. The case was still okay. There simply wasn't any place for the case to blow. Of course these actions, or any other will come apart with a detonation charge, but is a lot different to loads that give excessive pressure for the case.

No doubt the Model 70 was fired with an excessive pressure charge, although it did not detonate. Long ago I discovered that duplex loads (or mixing powders) could be dangerous. Then a munitions chemist, who is a friend of mine, verified the fact. Duplex loads were tried in the "old daze" in an effort to obtain better ignition with the poor priming compounds available, and/or to obtain higher velocity. The idea was good, but like some other good ideas it didn't work well.

Artillery shells used an "igniter" charge, and you can see the advantage to kick-off a huge charge of hard-to-ignite powder in very large bores. I do not consider duplex loads safe or necessary in small arms. Our U. S. powders overlap in their best burning range, and modern primers are hot enough to quickly ignite anything from Bullseye to and including Machine Gun salvage.

The .30/06 is the most widely overloaded rifle, partly because there are so many pieces in circulation, and in the hands of handloaders, because it is an excellent reloading number, and because many shooters are trying to obtain .300 W. M. ballistics. In my opinion, the latter is best done with a .300 Weatherby Magnum rifle. At least I know it can't be done with an odd-ball load in a 30/06 at present, in safety. Just what the future holds on this subject may be different.

Handloading isn't dangerous for novice or expert, if one follows the usual warnings. You do not even need a high I. Q. to load good, safe ammo. I've started many youngsters and adults in this finest of all hobbies in the past 25 years. I'm proud that none have had an accident, and none have been involved in crime. Modern guns have a large margin of safety with modern, high pressure loads. U. S. canister powders have excellent uniformity from Lot to Lot and are stable.

I've often worked with unknown powders and guns, and I've never wrecked a gun or had an accident. I do not call it "luck," but ordinary common sense. If I published all the hot loads I've safely fired in a journal with a large circulation, such as the GUN DIGEST or GUNS Magazine in my handloading column, I'm sure a flood of accidents would result. The hot loads I list have been hand fired (generally in more than one gun), or if I haven't fired them, the source is stated.

To date I do not know of any accident resulting from any load I've published or suggested, and I'd certainly feel badly if the record was less than 100% perfect. That doesn't mean it can't happen! Mr. Jenkinson made some good points. Every rifle is a "law unto itself," as he stated. Loads are not a prescription, like medicine.

Speer Handloading Manuals are an excellent source of good data. Some of the top loads are too hot in some guns, and some may be increased in others. (This is also true of Lyman's Handbook.) Those loads, and others, are merely to suggest a starting point. For example, a lad with a new Model 88 Lever Action picked a next to the lightest charge in a Speer Manual. He had to take his piece to a gunsmith to get the action open. But no harm came to the shooter. This was not Speer's fault, nor should they be responsible in case of an accident. The exact lot number of components were safe in the particular gun (or guns) used by Speer. They might be poison in another gun. I often list the make of case, primer and bullet, which is often important, and sometimes the make and model of firearm used. Loads fired safely in arms that will handle high pressure may be dangerous in other guns.

People have brought or sent in handloads that were giving trouble. When broken down, many do not have anywhere close to the amount of powder listed, that lads say were "carefully

TRADIN' POST

Classified type ads: no display. **Rates:** — 10¢ per word per insertion, prepaid. Minimum charge $1.00. Closing date for ads is the last Saturday of the month preceeding publication.

Groups of figures, abbreviations and initials count as words. Hyphenated word counts as two words. Name and address of advertiser is counted. Use full words instead of initials and abbreviations and make your meaning entirely clear — get your money's worth.

Army surplus clothing, camping, shooting equipment. Tremendous catalog free. PRINCETON, 300BB Northern Blvd., Great Neck, New York.

WANTED: Photographs of and/or comments concerning interesting equipment. Editor.

WANTED: Tune sheets for Stella Swiss Music Box. Reilly, 445 Western Avenue, Albany, New York.

weighed." When I visited one friend, his trouble was quickly found. His scales were out of zero about 4 grains! One reason I recommend Webster RW-1 and RWC scales is because they have large figures. The wide, deep notches are apt to hold beam weights in place during use. These features help reduce the human error, a far more important factor than the 1/10th grain accuracy most makes advertise. I like other Webster features, such as .1, 1 and 10 grain graduations, self-aligning bearings, adjustable sensitivity, etc., but that doesn't mean other makes are not "accurate" enough for good loads. Scales are no better than the operator, and the same for measures.

Handloading is a safe, creative hobby for a novice, if he uses reasonable care to work up hot loads. I also recommend standard quality components and guns made in this generation. He should avoid odd-ball loads. Also old, odd and most foreign powders, and old brass. I think the greatest danger is driving to the range or hunting place. Some old clunkers are being shot that should be scrapped, or at least have more good gunsmithing than they are worth. It gives me a chill to think about some of the old booby-traps in use. Some are being fired with any kind of ammo that can be chambered. Gad!

Mr. William B. Edwards, Technical Editor of GUNS Magazine, also had a good point. The majority of sincere and qualified gun writers can earn more money at most any other work. They certainly do not write for money alone. Editors have to be darn stingy with company funds in the firearms field. Any writer can earn several times as much money writing good fiction. He can earn even more writing bad fiction! The market is much larger, and less time is required.

Same deal on TV. A gent who plays like a lawman for 30 minutes per week earns perhaps ten times as much money as a working lawman, who may be called at any hour of the day or night to risk his life in the line of duty!

I'm not anti-TV, but I can't see that it has contributed nearly as much to human progress as gun magazines, unless we count the closed circuit variety. Many fellows would be better off and happier if they spent more time filling hulls, and busting caps in the great outdoors. Some people will not agree, and I say, "Everyone to his own poison." Now that I've blowed my stack, (getting less money than bad fiction would bring) if you'll excuse me, I'll go watch "Gunsmoke." That beautiful barroom babe, and her handsome fast-gun cop friend have a dandy half-hour short. My hulls are all filled, and I don't want to write any bad fiction!

TINKERING NEATLY DONE

The bench grinder is probably the most used, and most cussed tool in most shops. For some reason the hardware stores (including some pretty big distributors) in this neck of the woods carry only close grained, hard bonded stones. Their chief virtue is that they will last forever, but that is of little value if they won't taek off metal. The result is that in roughing a lathe bit, or similar operatin, the work is in the cooling water more than on the stone; work and fingers are burned, the job takes forever and cussing doesn't help much. I, like the guy who has never enjoyed modern plumbing, suffered for years before finding that there is a better way. Quite by accident I picked up a very soft stone, too soft to be practical, but how it would take the metal off An inquiry ot the Carborundum Co. at Niagara Falls brought the recommendation to use a grade A46-L6-V30 stone. This number comes in 6 x ¾, 6 x 1, 7 x 1, 8 x 1 and up to 12 x 2 inch sizes, all with holes as specified. It is a joy and pleasure to use, as a lathe bit can now be roughed to form with no dunking to cool and without burning. Sure, being softer it wears away a little faster but if your time is worth more than a nickle an hour it's a good investment. To get maximum benefits a good wheel dresser is essential. Don't know why the manufacturers don't promote softer stones, as aside from customer satisfaction they should make more money as the stones wear away faster.

The above stones are factory stock items but my experience is that your dealer will have to order them.

The Schoharie Tinkerer

BSA MARTINI INTERNATIONAL MARK III SMALLBORE TARGET RIFLE

Judging from descriptive and illustrated literature just received from B.S.A. GUNS Ltd. it would appear that the new INTERNATIONAL MARK III smallbore target rifle has features that may be very worthwhile to the smallbore competitive rifleman.

The barrel of the new rifle is completely free-floating. Three inches of the breech end of the barrel is precision ground for a press fit into the honed bore of the receiver and, after headspacing, is anchored in place by two robust cross pins through the receiver. The barrel has no contact with the forearm, which is an alloy metal strut extending from the receiver to which walnut panels are attached.

The trigger mechanism has been improved and it is claimed that variation of pull from shot to shot is so slight as not to be discernible to the shooter. Trigger has adjustments for weight of pull and backlash that may be made without removal of the action from the receiver body.

Factory accuracy standards require the rifle to produce, with match ammunition, five consecutive ten shot groups at 100 yards having an average group size of .75" cutting and no single group of the five to exceed 1 inch cutting.

We believe complete information about this newly improved match rifle may be obtained from the U. S. distributor, FREELAND'S SCOPE STANDS, INC., 3737 14th Avenue, Rock Island, Ill.